

I'm going to teach you accounting and finance in a way that you've never been taught before. I'm going to teach you accounting and finance assuming you have no or very little background or experience in finance and accounting. I'm a firm believer in entertainment, meaning education and entertainment. We have to enjoy the process. And so, I really want to inspire you and teach you to enjoy accounting and finance like a good book. So this is how I teach accounting and finance at the business schools I teach at nights and I'm...humble to say that from the feedback you can find online by searching my name or through LinkedIn for my students uh that the feedback is fantastic when I teach them these courses and they really enjoy complex classes like finance and accounting and they learn a lot and they have fun doing it as well and so I'm going to take several semesters of university taught accounting classes, finance classes, valuation classes and modeling classes and fit them into this simple 4 to 5 hour course. So, here's the road map of what we're going to cover. Accounting is really all about what has already happened in the past? and it's more of science, meaning you have to be precise and record exactly what occurred. Now, finance is a little bit different. Finance is more of an art as your kind of creating and predicting the future through financial projections., so it's really subject to interpretations and is based upon your assumptions, which i will teach you in this course.so the whole point is to really understand. Of value and come up with target prices for companies using accounting and finance and and I actually really enjoy the process as well, so we're going to go through from an accounting perspective what an income statement is from scratch? I'm assuming you have no background on this topic, we'll do the same for the balance sheets and then the cash flow statement, and then we're going to project the future, we're going to go through many online free resources to help us put together our financial forecasts,, we're going to model financial. And predict the future, and the stuff that I want you to use, and I'll show you how to use for free online, is a stuff I used to pay thousands of dollars for every single month at my hedge fund or when I worked at Goldman Sacks or when I work currently in the venture capital sector, I'm going to give this all to you for free, I'm going to show you where to get online and how to use it, and so we're going to also asses such the financial statements of a company and look at how healthy the company is, do they need a checkup, do they need help or not, just...by looking at the financials, it's a lot of fun, and again, you don't have to have any experience in finance and accounting to take this course and enjoy the process of learning about this., so we're going to start with accounting in sections two to four in this course, and then we'll move to finance and modeling in sections 5ive e and then we're going to cover many different valuation methodologies to come up with the appropriate target price for the companies we're going to analyze in sections 9 to 14.and then what we'll do is we'll learn how to use many different cool accounting and finance formulas to really assess the health of a company, so I'm really passionate about the way I teach, and I know you're going to understand and enjoy finance and accounting after you finish taking this course, or else please receive 100% refund, which of course is the case with all of my courses, so this is the way I really wish finance and accounting and valuation modelling was taught to me when I was in university, so there's going to be many different excel exercises in the...course and we're really going to enjoy a more visualized approach to learning, accounting, finance, modelling, valuation and understanding financial statements. thanks. Let's talk about the income statement, but hold a second, I'm going to put the income statement on hold for a

couple slides. I want to give you very quick accounting introduction. There's three financial statements: that we'll be looking at, there's the balance sheet which tells you what do we own, then there's the income statement that tells you how much money do you make, and then there's the cash flow statement, it hold a second, how much money do I really make? See the income statement doesn't tell you how much more cash you're getting in your pocket, it's actually not accurate, and so we need a third financial statement called the cashflow statement and will tell you how much you really have cash wise,, and it will basically look at the income statement and correct it for you., I want to put on your I want to put that on your radar screen, we'll come back to that shortly., great. Back to the income statement, so by the end of this section, you will understand why an income statement is really important and how to analyze income statement so that you can create and understand financial modelling., so we're going to do an accounting background for. Talk about what is the income statement and what purpose does it have, we're also going to talk about why we create the income statement, and the reason is, if you don't create income statement and model it into the future, you'll never know how much a company is worth and what the target price is going to be, and the way we're going to do this is we're going to go through number of different excel spreadsheet examples. let's discuss the income statement in more detail. income statement will tell you how much money is coming into you, ? and that's called revenue or sales, which is the same thing, and some people call it the top line, because revenue goes at the top of the income statement, and the bottom line, what is our bottom line? That's net income at the very bottom., and it also tells you money out? and revenue or money in minus money out or expenses, equals net income. Pretty simple. Great, so let's drill down a little further, , and we're going to talk about an example here, you have a company and you sell apples, , and you sell them for \$2 each, and that's a Canadian \$2 coin, it's a polar bear, pretty cool,, so you sell an apple for \$2 each, , and you sold six apples,, so that's \$12 in revenue, now in terms of expenses, it costs you buck to make one apple ,that's a Canadian \$1 bill we call aluni, represent I'm Canadian here, so it costs us buck each to make an apple ,and we made six apples and so the cost of goods sold is 6x bucks so revenue minus expenses equals the revenue minus the cost of goods sold equals your gross profit , let's move on, and then we have labor, ? You work in this great company, and you made buck? And there's another expense called depreciation., and this is beautiful thing, but it's not cashes out of your pocket. And let me drill down, explain it more detail., so you buy a truck? Your truck is going to last you for 10 years, you paid 10 bucks for it? And so every year, you're... allowed to depreciate that truck, ? there's wear and tear on it, and basically that means that you're going to pay less tax, and this all makes sense in a second. , so over 10 years we get to write off 10 bucks ,buck this year, , and then we get buck next year, rinse leather repeat, you get 10 bucks, cool, and so that is depreciation, , and it's a beautiful thing. Because what we're going to do now is calculate taxes and we're going to pay a little bit less tax if we if we didn't appreciate this truck we pay more tax so what is our tax going to be well our pre-tax net income is four bucks 12 minus 6 minus one minus one four bucks we're going to get taxed on that four bucks now and if we did and we pay back taxes which is say 25% let's pretend that the tax rate is 25%if we didn't depreciate that \$1 for the truck then we would have paid taxes on five bucks , which means that we would have paid more taxes. so now net income is the bucks. now let's take a closer look, revenue earnings. revenue is what we're going

to spend huge amount of time on in this course. It's more important than any other line item any financial statement, and the reason is that once you forecast revenue everything else in your financial models, pretty much is just a percent of revenue, and this will make lot of sense to you when we do the modeling section of the course, so the top line is 12 and the bottom line is three. Now that we know what income statement is, let's take a look at an example, and so income statements always start with revenue at the top, and that's why they call it the top. Our expenses to operate our business and that's sales and marketing, research and development and general and administrative, and so whenever I don't know where to put something, expense-wise, I just throw it in this bucket. That's GNA and so revenue minus all these expenses so far is called operating profit or ibita and ebata stands for earnings before interest there, taxes there, depreciation there and amortization there, and the reason we have this line item is because in many countries the interest rate and tax rates are different versus other countries, so how do we compare two companies that might be similar but are in different countries? And have different tax rates and different interest rates, well we look at this line here and I'll show you lot more information on this later on the course when we model and value our companies. All, next up we have interest that we're paying on debt or interest we're receiving and then we have depreciation and amortization and these are non-cash items and what that means is basically in the last lecture when we were talking about that truck? so if we buy a truck or a piece of machinery the government is basically giving you a...and so earnings per share is just this earnings basically divided by the number of shares and let's go through an example now so we're going to monitor what our income statement numbers were in 2014 and then 2015 and then we're going to look a dollar change year over year and a percent change year over year and then we'll talk about whether or not that percent change is a concern or not and the reason i really want to talk about this is when you're looking at financial statements I just want you to look for trends in the data. , one data point doesn't make a trend, but a couple does, and later on in this course we'll do financial modeling. Financial modelling is really easy, it's basically predicting the future, what's the company going to look like in the future, what are their numbers going to be in the future? Well, we'll cover this in great detail later, but I want to put this on your radar screen now. All you have to do is forecast all revenue numbers in the long run, many years from now, and then almost every other line item on every financial statement becomes a percent of revenue and you're done? It's really easy, and again I'll walk through that in more detail later. All, now let's take a look at the numbers, so let me just delete a couple of these boxes. , so we got our numbers there and there, and we're going to be analyzing the year over year trends, so wow, look at that increase earnings per share, amazing, amazing, , and let me just uncover this, so the dollar change over year, and I'll provide you with a spreadsheet as well if you want to play around with it, if you just double click, it's that your mind. that year, it's just that sort of thing, it's pretty easy to understand, and if I get rid of this box here, this is a percent change you over year, it's simply the percent change year over year from 14 to 15, see 2014, 2015, and then we'll talk about are any of these line items concerns or not, and why?, so let's kick it off by analyzing revenue, wow, check that out man, revenue increased astonishing 38% year over year, that's incredible, let's look at the bottom line, here's the bottom line,, so we had 133% increase, wow earnings, that's amazing., why the heck did net income increase 133% and revenue increased only

38%? it's a good thing, it's amazing, well let's find out why, and whenever you see that, whenever you see net income or earnings or profits going up way higher than revenue a percent basis, we call that margin expansion or leverage in the model., and so the cost of goods sold, meaning the cost to make that stuff we sold, only went up 17%. Wow, that's incredible, it went up basically half as much as this, the revenue growth, so we're being much more efficient I guess in producing our product. Now let's look at sales and marketing and research and development, they both increase 20%, which is about half of the revenue growth, that's amazing, so I guess that means our sales people were twice as effective as they were in the previous period. And then GNA increased only 13%, that's even better, so you had even a smaller increase in general and administrative expenses, yet much bigger increase in revenue, that's incredible, and then operating profit, my goodness, look at that, it grew over 100%, that's incredibly over your leverage., the the ibata or operating profit, same thing grew over 100% here, and the reason it grew much faster than revenues because the expenses grew a much slower pace., that's astonishing, and it gets even better, why is net income even better than operating profit? Well, because our interest is lower, looks like we paid off \$5,500 of our debt here., that's incredible and depreciation advertising stay the same, and our taxes remain, what is our tax anyway? 25%, ?yeah, yeah, , so – our taxes stay the same, and that is where you get the leverage from, so this is an absolutely perfect, perfect, uh, income statement, and there's really no concerns, there's no concerns at all, and before you go to the next lesson, I want to show you one more thing, we love to look at the rate of change in the percent of revenue for stuff. check this out., so it looks like our gross margin, which is gross profit divided by revenue, ?I'll just double click that so you can see here. oops sorry, see that? That minus that, and it's just that divided by that. And see what i do, i name my rows, ?so here, I clicked on this, and that's called revenue, and the reason did that...is because it just gets more intuitive, I can kind of speak English to Excel by saying this divided by revenue, instead of remembering that line there, and again you just click in there and then you enter in whatever you want that text to be., so our gross profit margin ,went from 45% to 54%.that's incredible, ?let's look at the other margin numbers our operating profit margin or ibita margin, same thing, went from 27% of revenue all the way up to 37%,that's incredible, leverage, great leverage, and we'll cover margin structures in much more detail later in this course ,let's take a look a couple more line items, so our profitability margins are improving materially, now remember before i said to look at everything as a percent of revenue, let's check that out, well we already talked about this, gross margins a percent of rivulet's look at each expense item, sales and marketing as a percentage of...and stuff as a percent of revenue went down as well, meaning expenses, and that basically led to lot of margin expansion, and there's absolutely no issues with this income statement at all, this is an absolutely perfect income statement. Now it's time for the income statement exercise, this income statement exercise is attached in excel format to the current lecture, and basically all you do is you copy these items, these white. And then you're going to put them into these boxes, these three on the next tab here, here and here, and then what you're going to do is you're going to write down if the percent change year over year, which will automatically be calculated here, if the percent change is a concern, yes or no, and if you answer yes then please write down here why?, and then when you're done, please click here to read the answers and also please watch the next lectures, I want to go through the answers in much

more detail, so one last thing I want to say is that these items are sorted alphabetically, so again just copy and paste them into the appropriate boxes here, tell me if it's concerned yes or no, if the answer is yes then write why. Let's discuss the answers to the income statement exercise., so let's just look at trends in the data, so I'll kick it off. With the top line which is revenue, so it looks like revenue decreased 120,00 or so year over year down 8%. that's obviously a concern, it's always a concern when revenue declines. Let's take a look at the cost of goods sold or the cost it took us to produce our stuff, and wow, that's brutal., look at that, we had increase of 14% year over year in the cost of goods sold despite the fact that revenue was down. so obviously that's a concern the cost to make our product increases despite decrease in revenue and then gross profit obviously is down as well because that's just a formula that minus that revenue minus the cost of produce that stuff or cogs concern sales and marketing increased a pace of 17% year over year fine because revenue is down 8% but this expense item was up 17% year over year and it gets worse R&D was up 33% year over year despite an 8% decline in revenue, GNA was bad as well, and so what happens is our operating profit margin or ibita went down. From 37% to 20% leverage can work against you big time as well, so we have a 50% decline year over year in our operating profit despite a revenue decline of only 8%, and it looks like we took on more debt here, so we're paying \$10,000 more in interest, so we had a spike, and so our profit before taxes was down 58% year over year, which is worse than the operating. profit year over year decline because of the increase in interest and then so our net income uh was actually down 58% year over year it was still positive 157,875 but it decreased that much year over year so ouch 58% decline year over year earnings per share or net income same thing or net profit same thing despite the fact that revenue is only down 8% so the results from this exercise is basically the opposite from when we looked at the income statement example, ? in the example there was no concerns, but in this case there are many concerns obviously, so play around with the data, like double click on different entries and just see how we got to those numbers and how all this flows through uh, that's the best way for you to really learn and master the whole income statement process and now that we have this nailed what we can do is go to talk about the balance sheet and then much later in the course. after we understand financials perfectly well, we'll talk about modeling and then we'll talk about valuation, which is lot of fun. let's talk about the balance sheet. by the end of this section, you will understand why a balance sheet is very, very important, and it's crucial that you understand how to analyze a balance sheet so that it will make much more sense to you when we create financial models and i mentioned the same thing in the income statement section, and when we're modelling our balance sheet, see in a couple sections from now, what happens is most items are quite simply a percentage of revenue, so let's get started, so in this section I'll talk about why they call a balance sheet, both sides have equal each other, you'll see it will make sense soon, in terms of why do we need a balance sheet, well similar to why we need to create income statement, if we don't create a balance sheet and forecast it, it's harder to come up with a target price meaning what is our company worth, and in terms of how we're going to do this, well we're going to go through an excel example and this will make lot of sense to you very soon and so there's so many different moving pieces when you're creating a model, there's income statement, the balance sheet, the cash flow statement, drivers, assumptions, that sort of thing, this will all make perfect sense to you in a couple of sections,

let's discuss a balance sheet in more detail, remember a balance has to balance, , it's a scale, all , so a balance sheet will tell you what stuff do i have. And do I own it or do other people and so everything in this world is owned by you, somebody else, a bank, a company or government, so let's go through this, so the stuff that you have is money, factory and a car, and in terms of who owns that stuff, it's either the bank, , that rich dude, smoking, whatever is he smoking, and then you, , and you're also that gold person there. This will make more sense in a second. All, so stuff I have, who owns it? and the stuff you have is called assets, those are your assets? And who owns those assets? That's called liabilities and equity., and so assets is against stuff you own, liabilities are a bank that owns your stuff, and equity is people that own your stuff including. Wells Fargo partially , big mortgage company for example, and you, and so everything that's an asset has to balance with a liability or an equity position in that asset, and so the scale has to always balance, , and a balance sheet is a snapshot in time, , it just tells you what do you own or what do you owe at this moment? let's talk about the balance sheet, and so the balance sheet has assets at the top, and assets must equal liabilities plus equity, and so let's get rid of these guys here. So underneath assets, we have current assets and long-term assets. And current assets are sorted by stuff we can convert to cash first and stuff that takes us longer to convert to cash, so cash can obviously be converted to itself away, and then comes short-term investments, which could be treasury bills, and then accounts receivable, meaning money that's owed to us by customers, so instead of customer paying us cash for something, we basically told them, hey, don't worry about it, you can pay me in 27 or 28 days from now, and so we're actually a cash deficit because of that, don't worry if that doesn't make sense to you, we'll cover that in the cash flow section next section, and then we have inventory here, and so current assets are stuff we can convert to cash in less than one year. Long-term assets is stuff that will most likely take us longer than one year to convert into cash, and so we already talked about depreciation, but what we do on the balance sheet is we list what our asset is valued at today, meaning after we subtracted all of the depreciation from prior years., so that's assets, and so total assets is basically current assets plus long-term assets. Let's move to liquidity and equity, and we group these together because assets always has equal liabilities plus equity., so in the liability section, we have accounts payable, which basically means money we owe to other people today, and "I always encourage companies to pay their bills as late as possible without inquiring a penalty, and the reason is that you need to think of yourself as a bank, because if you pay your bills as lay as you can without incurring interest expenses or penalties, then you get to collect that little bit of interest on that cash until you pay it back, and I know interest rates are low today so it doesn't seem to matter, but it does matter when interest rates are 12%.retain those earnings and retain earnings is simply what was net income last quarter, that sort of thing. , and I'll explain that more detail in a second, and this is the issuing of common shares or stock, ?and so, of course, assets has to always equal liabilities plus equity. Now what we're going to do is we're going to analyze similar to what we did with the income statement exercise, a couple of years, 2014, 2015, then we look at the dollar change year over year. Remember finance is all about looking at the rate of change and looking for patterns, and then we'll look at the percent change year over year, and then we'll flag these items, the percent changes, are those concerns or not, and if there is a concern, then we'll explain why., let's take a look at our numbers here, as you can see,

liabilities and equity here equals assets here, same can be said for 2015, assets here is equal to liabilities plus and I've got this really cool formula set up for you and I'm including this file in this current lecture and you can actually use this see that it basically says if this doesn't equal that then say hey balance sheet doesn't balance otherwise do the opposite and I'll show you how that formula works so if I just delete a bunch of stuff here see there it says no the balance sheet doesn't balance so I'll just control z undo that and by the same time are different things ,because non-cash expenses like depreciation and other stuff like that, don't worry, which is moment and all this will make perfect sense., so let's look at trends. so cash was up healthy 50% year over year, that's awesome., and our accounts receivable was up less than cash, which always like to see, and inventory was up a bunch as well, that's i guess it's kind of concerned, but it's such a small number, I'm not too concerned., but if you have too much inventory, if it's a massive number, too much inventory can actually bankrupt a company. I'll talk about that later.

Moving to long-term. sets looks like our building went down 5% year over year and the reason is because remember during the income statement exercise our depreciation was \$5,00 so that's why that's why and looks like we bought \$10,00 more of land here and for the first time we bought a machine here as well so assets went up 20% year over year now let's try and understand why assets went up that much so let's look at the liability section first accounts payable, meaning the money we owe to others went up 17% year over year, our short-term debt went down 11% year over year, that's awesome, i love to see that, and then our long-term debt went down \$10000, also awesome, love to see that, that's great, and then retained earnings here, went up huge, wow, look at that, went up 80% year over year, that's amazing, that's amazing, , cool, and then common shares, looks like we shoot shares uh for additional \$60,000 went up 400% year over year, but it looks like the bulk in the increase of the 20% for liabilities and equities, this section came from retained earnings ,and that will tell us basically why this side increased, ?so here we have cash an equivalence increasing \$200, ?lot of that will be explained by this, but there's something it doesn't make sense to me, and it won't make sense to us until we do the cash. Statement exercise in the next section, which is this: why is retained earnings or net income up 375,000 ?which it was if you go back to our income statement exercise and increase that much for that year., why is that the case? and cash was only up \$200, huh? just keep that in mind, I want to put that in your radar screen now, don't worry about it, we'll cover that once we get to the cash flow statement, and let's look actually at the income statement to see just to verify the...That's , see retain earnings ,so it's the earnings that you retained was up 375,750,so let me just go over here and drag in my income statement, that's what I'm talking about, here we go, yeah, that's , so it looks like net income or profit was 375,000 here, so let me say bye-bye to that, great, , cool, so are there any concerns here? Not really, mean i might, might after you're done, please take a look at the answers and then come back and see me please in the next lecture and we'll go through the answers in more detail. **thanks.** let's discuss the results of the exercise. Cash was down 50%, which is absolutely terrifying, absolutely terrifying. Once you have material decline like this in cash, it could signal that the company could go belly up. Of course you need one more year of data to analyze it as one data point does make a trend., accounts receivable is up 74%,that's concerning as well because we're extending favorable terms to our customers ,and so it's a cash crunch for us because they're not paying us the cash yet., inventory, oh my goodness, wow,

inventory was up over 1,400%. This could bankrupt a company. There's a great example of this with Atari, which was a video game maker back in the early 1980s. They made this game called ET based on the movie ET and it was such a horrific failure that they actually buried hundreds and hundreds of thousands if not millions of copies in the desert so times when we have a spike in inventory is because something went wrong, ? no one's buying that product, that's terrifying. , let's keep going here. long-term assets, I'm not that worried, there's really no change here, that's fine. uh, the building went down \$5,000 because of the appreciation which we covered in earlier section. Let's talk about current liabilities, but I'm really going to focus here on debt, so debt was up by over \$30, at short-term debt? uh, that's a concern. let's see what else we have here, oh good. Long-term debt was up 300 grands so that's fine, so maybe we took this debt and we're financing the material increase in inventory with partially that debt. fine. let's go to retained earnings. All, so we can tell our net income from the income statement was \$157,875 for calendar year 2016, and we a small increase here in common share, so what really worries me about this is the material? Spike in inventory, it's absolutely terrifying, inventory spikes like this can of course destroy a company. Last thing I'll say is this, looks like our balance sheet balance, which is a good thing? at least we got the math here, which is uh, which is great., cool. well, we are done with the balance sheet section now, and let's move to the cash flow section, which is much easier than you thinking, once we understand how all three financial statements talk each other or how they're all related or linked to each other, then creating financial model. From scratch is very easy. and what is the relationship between all these financial statements? the connection between the three financial statements, then we can learn about how to create financial model. the fun part, so what is cash flow statement? I'll explain more detail in the next lecture. why are we doing this? well, we're doing this so that we can understand what is accurate and not accurate about the income statement, because the income statement gives you net income, but the net income is not always cash, and cash is king. , how are we doing this? well, we're going to do it with excel of course, and you'll go through an example with me, and basically if I give you the balance sheet and the income statement, you can calculate the cash flow statement from scratch, and so when you do financial modeling, you focus on revenue in the income statement, the balance sheet then talks to the income statement, and you don't even have to worry about forecasting the cash flow statement because it's all done automatically in excel, ? so again, to make cash flow statement, all you need to have are two things, number one the income statement, number two, the balance sheet, then you can make it, and we'll make alif you get paid and you have a check and the check is post-dated ,you can't cash it for a couple weeks, then you didn't get that cash yet, and so the income statement is not correct, that's not revenue yet, mean it is revenue, but it's not cash revenue , so income is not always cash, so if we take the cash on the balance seat at the end of year to, and we deduct cash on the balance sheet at the end of year one, does that equal? Net income? No, no, it doesn't, not at all, not at all, and that's why we have the cash flow statement., so the cash flow statement will tell you why cash increased on the balance sheet from one year to the next, or why cash decreased on the balance sheet from one year to the next, and so here's how you make cash flow statement: you start with net income at the top, ,and then you add back non-cash items from the income statement, like depreciation, and then you're going to add back non-cash items from the balance sheets

,so step one, let's do it, get net income from the income statement,, and we've got it there, it's three, , we already did that last section, step two, add back non-cash expenses, well we've got depreciation of buck for that truck, so we'll add that back, so we're at four now,, and we're done with the income statement portion, now what we would do is we go to the balance sheet and add the non-cash items, but tell you what, I want you to watch the next lecture, because I'm going to give you an example, and then you'll have an exercise and this will all make perfect sense. Why does net income? not equal the increase in cash. If we look at the income statement that we did two sections ago, we had 375,750 in net income, and if we look at the balance sheet that we did last exercise, the increasing cash from 2014 to 2015 is \$200, so why the difference? What explains the increase in cash by \$200, well we need to have another...statement to help us with this, and that statement is called the cash flow statement, so what we're going to do is we're going to look at the actual income statement and balance sheet examples from the previous two sections, and then we're going to create cash flow statement now from scratch. Before we do that though, let's just take a quick look at the three sections of cash flow statement, so the cash flow statement is made up of three items as follows: number one: cash flow from operations: and this basically means stuff that has a duration of under one year, meaning stuff from the income statement in the balance sheets, current assets and current liability sections, except for debt, and i that sounds like lot, but basically we're just going to look at the cashflow from operating our business for less than year,, so the income statement is always for a period of year or less, and if you look at the current assets and current liabilities a balance sheet for the most part those items all have a...and remember a while ago i said that the income statement is a lie, well I was half joking because the income statement does not tell you the increase in cash, and neither is a balance sheet, the balance sheet will tell you to change from one year to the next in the cash balance, but it won't explain how to get that increase in cash, and that's why we're doing this exercise, that's why we're creating this cash flow statement, and the third part is cash flow from financing from debt or changes in common stock,, and let's look at the previous two financial state. Cash items from the income statement, so take a look there on the and tell me what is not cash? depreciation and amortization, , those are non-cash expenses, so it's not fair, it's not a benefit that we get for increase in cash, it just decreases our taxable base, , so added that back, and then what we do, step three, remember we're just looking at stuff that's less than year, we go to the balance at. current assets and current liability section and we get the non-cash items, so let's do that. , so we've got accounts receivable, so check it out there on the , accounts receivable increase by \$50,000 , and that means that somebody owes us \$50 grand from sale we made, but we should not have gotten the benefit of getting that 50k in our pocket because we haven't received that cash yet, by the same token with inventory, we spent an extra 25 grand on it, so that should come out of our pocket, and then look, down there on the liability section of the balance sheet, accounts payable went up \$5,00 and that means that we have 5 grand more in our pocket because we haven't paid that amount yet, so let's add this now, , so what we get is we deduct those first two items because that's cash out of our pocket, and then add accounts payable because it's cash in our pocket, and then what we get is cash flow from operations, , so we're done with 1/3ird now of the cash flow statement. And really try to understand why this is the case, don't just memorize this, please, try to look through the financial statements and understand why

this exists, why is it 310,750, what is the purpose of this financial statement? so if you understand finance and accounting statements then you'll remember them, don't memorize them please. , now we move to step two of the cash flow statement, ?so we're going to look at cash flow from investing, we invested in stuff like we bought machines or land and that's cash out of our pocket, so let's check it out: so of course we get this from the balance sheet, let's do this, so there we go, we've got land, we spent 10 grand more in the past year on land and 50 grand more on the machine. And so that becomes 60 grand. , good. so we're getting there, we're two-thirds of the way there now. so we got one more thing to do in the cash flow statement, which is cash flow from financing, meaning if we got a loan or we had a change in common stock. All, let's check this out, and so we get this from the liabilities and equity section. We can see that short-term debt went down. That's a good thing, we paid off debt, but you know what, that's 10,750 bucks out of our pocket because we paid it back. Long-term debt went down by 100 grand again, it's good we're paying off debt, but that's 100 grand out of our pocket and we issued 6,000 worth in new common shares, let's just add all of that stuff up now, and so for cash flow from financing, taking in account all that, that's minus 50,750 out of our pocket, most of that came from long-term debt, cool, now let's add these three items together and what do we get, there you go, that explains the \$20,000 increase in the cash balance, that explains the increase in the \$200,00 in our cash balance from 2014 to 2015,, and I'll show you what that looks like on the balance sheet,, so there you go, 200,00, that explains the difference, now it's time for the cash flow statement exercise, so similar to how you completed the balance sheet exercise as well as the income statement exercise, here's a bunch of items sorted alphabet, and what you're going to do is you're just going to paste them into these sections here, and this one's a little bit different, what i want you to do is i want you to tell me where you got this information from, , was it the income statement or the balance sheet, , and when you're done, please look at the answers here and please watch the next lecture, thank you, so we always start with net income at the top of the cash flow statement, this obviously comes from the income statement and then we get one more item usually from the income statement which is depreciation and advertising, you just add it back because of course it's not a cash expense and after depreciation what we do is we look at the change in working capital and working capital means current assets and current liabilities so you look at the current assets and current liabilities and note the change and add those here so accounts receivable went up 170,000 which means it's cash kind of out of our pocket and remember inventory was an absolute disaster uh last exercise when we were looking at the balance sheet and so we're going to deduct here and we owe \$15,00 more than we did in the previous time period when it comes to accounts payable so that's a net cash temporary benefit for us so we put that in your pocket and that gets to cash flow from operations of this amount nothing to do here because there are no changes for these items on the balance sheet and lastly cash flow from financing, we actually uh increased our debt a bit for short and long-term as well as common shares and so add all that stuff together, this guy, this guy and this guy, and that gets you - \$298,500, and I wrote here, please note, the change in cash flow has equal the balance sheet from the current year minus the balance sheet from the last year's cash position, ? so... our cash position decreased by this much, and the beautiful thing about the cash flow statement is that you actually only need the income statement and the balance sheet to make it, so it's

really easy, and when we do the financial modelling section very soon, you'll see that we don't really have to look at the cash statement or really spend much time at all preparing it because it's automatically prepared for us once we create the income statement in the back in the balance sheet, it's automatically prepared because it's all just calculations that are linked between the income statement and the balance sheet. This will make much more sense to you in a couple sections. Thanks. All, let's put this puzzle together. , we talked about three financial statements and all three of them are linked to each other., we've got the balance sheet which tells you, what do you own, you've got the income statement which tells you how much do you make, and then you've got the cash flow telling you, well, hold a second, what you told me I make is not cash, and here's how we reconcile that, ?now all these statements are related, and if you understand the relationship between the three financial statements, you can test to see if you made mistakes , and so the relationships are as follows: so we got the balance sheet there, and that basically has retained earnings and that is connected to the bottom of the income statement, ?think about the wording too, retained earnings, what does that mean? it's earnings. Check and bounce there, that's your link between the two statements and I know there's an exception if you have dividends, it's a little bit different, we're not going that. All , let's talk about the next relationship, the next relationship is between the cash flow statement and the income statement. , so remember the cash flow statement, you start with that income, then you add back all that stuff, , and so net income from the bottom of the income statement is connected to net income at the top of the cash flow statement, ? All , and we also have the... change in cash flow , at the bottom of that cash flow statement , the change in cash flow from one year to the next should be equal to the change in cash flow from one year to the next or change in cash i should say from one year to the next on the balance sheet there cool now we understand the relationship between all three of these financial statements so what can we do now well this is where it gets really cool now we can forecast the future by making financial models and done that once we master the financial model process, then we can pick target prices, meaning what our companies we are looking at should be worth. let's talk about financial modeling. now you understand financial statements, let's talk about how to create and analyze financial models. , so by the end of this section, you will understand what financial modelling is, what the best practices are and why? skill is so crucially important for you to be successful analyst and stock picker. , so what is financial modelling? well, it's basically the ability to build out a spreadsheet several years in the future and understand what the financials will look like in the future for a company, it's like a crystal ball. , why do we do this? because once we finish with financial modelling in this course, we can come up with target prices, meaning what the companies we're analyzing should be worth. how are you? do this? well, of course we're going to use excel, ? and we're going to use our knowledge of the three financial statements we've already said,, and we're going to forecast the future for those financial statements, ?and then what we'll do is we'll use a little bit of magic, longer term, and we'll be able to figure out what the target price is, well earnings, well cash flow and well revenue from the three financial statements, ?and then we'll come up with target prices. Get the blended average of what the target price should be for the company that we're analyzing. , in this section we will study modeling, in a couple sections from now we'll talk about valuation. let's get started. let's talk about financial modelling, best practices and I'll include a PDF of all these best

practices for you to take with you. the two most important rules are very easy. rule number one: almost every single projection on your financial statements. is a percent of revenue. rule number two: look for patterns in the data. one data point doesn't make a trend, but a couple does ? and so a good way to think about is this: if i throw ball across the room, an object in motion will stay in motion for a long period of time, ? , so most public companies have revenue growth that is slowing, ? that object in motion, ? revenue growth is slowing, it's not their fault, they're just big companies and so... private companies that are backed by venture capital firms have revenue growth that's accelerating and once revenue growth is decelerating a bit the company goes public and so lot of great companies that are publicly traded have revenue growth that's slowing it's not their fault so if you see that revenue growth is really accelerating for a company that's publicly traded there's a very good chance they bought a company they made an acquisition and that's not organic growth that's organic growth and you have to know the difference between the two of them. we'll look at that an exercise soon. Number five: if revenue growth is down a lot, what happens is the company focuses on improving profits. Why? because the growth investors want revenue growth to be high, but if revenue growth is slowing too much, then growth investors won't buy the stock, and so management will basically try to make profits go up more, so value investors will buy the stock. Number six, don't talk to the CFO or CEO or IR until you built your model. we covered this. Happens is activist investors might buy the stock, get on the board and force the company to restructure or issue a big dividend or heck somebody could take a private even. , number eight, forecasting tax is really, really hard, just use the historical tax rate? and you can find that in the SEC filings, which we'll cover, we'll cover soon. , number nine: hardcoded items, ? you'll see these on all the financial statements we're going to create. hard-coded items mean non-formulas, they should be in blue means you hard code and you type them in. don't worry, this will make sense soon. number 10: items linked to another excel tab should be in green. this is just a standard i created that i really think makes sense, because the whole modeling process gets so complicated if you don't have different color coding. I'll show you in a minute. add many comments to your model? in windows, you type shift f2 in excel and you can add a comment in um in mac, what you do is you click a cell and you can add a comment and the reason you do this is because you'll come back and revisit this model in the future and it's really confusing if you don't know what you were thinking at that point in time when you entered information in that model and if you working on big teams and you enter in comments you should put your initials first at the beginning and the date as well just so your team knows who wrote what number 12 if the model is too complicated for you dumb it down by grouping items together and I'll show this to you in the example modeling is art and science, and I promise you, you'll never be 100% , you just want to be directionally correct, ? don't get worried if you're not 100% , nobody ever is. number 14, when you're done with your model, sleep on it, and then revisit it the next morning? and if you still feel great about what you've created, then you're done. number 15, know the size of the market? the total addressable market for a sanity check, and i'll be doing this with the LinkedIn case study. soon number 16: add every little piece of data that the company provides you in the curly earnings press releases to your model even if you don't use it. number 17: percent items should be italicized? number 18: spend lot of time prettying up your model, make it look perfect, ? even the formatting and everything, i know it sounds crazy, but just take

pride in having a perfect model or a model that's easy to read, should say number 19, you have the same access as the professionals do, ? have fun doing this, they don't have an edge on us anymore, ? you get access to the same amount of information that they do because of the internet and because of government regulations called reg fid or fair disclosure, ?you have the same access as everybody else. name your rows, ?and this is what i mean, what you can do is you can highlight a row,, like row nine, see, and then go up to the...top left hand corner of excel and type in revenue and that way it's like using English instead of code instead of saying divide sell x by silly whatever you can say divided by revenue and that goes in your formulas data sources for our model where do we get the information from well by the end of this section you will understand where to get information that will help you build rock solid awesome financial models what are we going to look at? And i have the same access to information that the huge mutual funds and hedge funds do? in fact, timing-wise we get access to it at the exact same second. it's a beautiful thing. And the third resource we're going to talk about is one that's near and dear to me., I used to spend thousands of dollars every year? actually every month? for my hedge fund and my analyze for Bloomberg access I pay thousands of dollars. What a waste? It was waste because you could get most of that for free from finance.yahoo.com and...show you, i know it sounds crazy, but all this information that I'm going to be sharing with you, you can get for free, you don't have to pay for anything.in terms of why we're doing this, well quite simply, so we can forecast the future, so we can forecast what we think financial statements will look like in the future. How are we going to do this? well, you're going to have a couple of model exercises. I'm also going to go through linked in and details, the company have always loved, and I created a gazillion financial statements for this course, and we're going to analyze the heck out of LinkedIn as well. Investor relations: Investor relations helps you understand the company better. Investor Relation submits press releases and financials to SEC.gov so you and I have the same access to information at the exact same time for free as the big hedge funds and mutual funds do. Investor relations sets up and leads quarterly earnings calls and we'll look at an example of this soon, but basically companies have to release earnings four times a year, ?publicly traded companies and what happens is investor relations issues a press release four times a year, usually when the market closes, half hour later they lead investor conference call, and it's usually a webcast, and you and i can get access to it just like every...disclosure and it's awesome because everybody gets access to financial information and material information at the exact same time, and that's great for you and me because we have the same accessed information that everybody on Wall Streets or in the large mutual funds and hedge funds do, it's awesome, it's awesome, they no longer have the edge on us anymore. let's check out LinkedIn's business, and so we can go through here and learn pretty much everything you need to know about the company, ? learn about the management team, they've got a... superb management team, jeff is awesome uh, the investor relations group is amazing there too, and actually I recommend that you sign up for these as well? you can ensure in your email address and the second they release something to scc.gov which we'll cover in a couple of lectures, the second they issue a press release, and the second they announce new event, you will find out at the exact same second as everybody else, and so it's always a best practice for you to sign up for email alerts for any company you're looking.at and so when i worked in the hedge fund industry, I would

have 30 or 40 companies email alerts hit me almost every day or every other day., so you can find out more about the management team here, ?you can learn more about LinkedIn, obviously, you can find out more information about the board of directors, the investor relations team, and then just FAQs are frequently asked questions, and this here is Matt Sonnenfeld, I think he's actually the best investor relations person on the street, he also heads up investor education there too, he's awesome, good guy too. All , so let's see what else we can look into, so we've looked at the management team a little bit, you've got upcoming events here, and anybody can listen these webcasts, it's incredible, just fill this stuff out, you didn't have to get invited to the palace hotel in San Francisco to watch Linkton present, you and I have the same access as everybody else now, it's awesome, , cool, and the same thing with Morgan Stanley, they had event , they had a keynote with the CEO, Jeff Weiner, you can... here and you can watch it or sign up for it again so pretty cool stuff all and you can even look at the presentation from past earnings releases that sort of thing it's pretty neat pretty neat so see what else we have here all so we've got their quarterly numbers here as well and so when a company issues earnings what happens is usually at 4 o'clock new york time a press release will hit and companies release earnings four times a year, once a quarter, and the press release hits the tape, everyone reads it really fast, and then about a half hour or so later, there is earnings call, which we'll talk about later on in this course. let's just take a quick look here at the press release. , so LinkedIn released fourth quarter numbers and this is pretty much like all press releases you'll see, they always say really good stuff at the beginning, they had a great quarter, blah blah, whatever, all like good stuff and then they'll talk about a couple of cool revenue metrics, so here revenue increase 34% year over year in the quarter to that dollar amount , and then they'll talk about their three revenue line items that they have, and we'll go through this in a lot of detail later on in this course , so they have three major revenue line items and we'll talk about that at length later, and this is important, they offer something called guidance, , it's the business outlook where they say, well we... in the first quarter, we're going to have revenue earnings of whatever amount it is, and they usually give range , and then they give guidance sometimes for the full year as well, and if this guidance is better than the street expected, then the stock goes up, and vice versa, and I think they actually gave poor guidance when they released this earnings result and the stock went down, I thought it was a broken, a broken stock and not a broken company, and I get excited when companies that are incredible secular growth winners like LinkedIn. sell off lot, it's always a good opportunity to buy. , and and it's interesting because Warren Buffett once said that the New York Stock Exchange is the only store in the world where consumers sell stuff when it goes on sale, and so what? is you have prepared remarks from the CEO and then the CFO says a couple cool things about the quarter and then what happens is way down here they have all the financials and so we reviewed how this stuff works in previous sections in this course here is the balance sheet and they always provide it on a curly basis and they provide a couple of other balance sheets from past periods as well so you can compare quarter over quarter moves like here over here or you can even compare over year moves like here over here like look at that cash increase by that amount year over year and so this is the entire balance sheets and then here we have the statement of operations and this is basically income statement the got revenue at the top and they've got all the expenses just like we covered and then there's non-cash stuff like

depreciation and then they have information on the cash flow statement here and so just like we created in the last section, we start off with net income, ? this is cash flow from operations, net income from the income statement, and then add back all this other stuff, including this, which is from the income statement, and a bunch of other things as well, most of them are from the balance sheet, , and then they um, they have financing activities, investing activities just like we talked about before, ,and then they have supplemental information, and this is really important because they only gave us total revenue up above in the income statement, but here it's cool because they're now giving us number of different revenue line items, so that total revenue number is broken down into a couple of different sections , here they have all their major revenue line items and then here they have it by geography, and sometimes i don't know if i'm going to use this stuff in my model but i put it in my model anyway just in case i use it in the future and then i have revenue by channel field sales versus online sales, these are basically quota carrying sales reps, ?they have a quota each quarter, and then these might be telephone sales people, and then there's something called gap and non-gap, and the financial statements we created so far, at least the income statement we created so far, was gap,, and i'll explain what this means in more detail in future lessons, but let me mention it quickly here, so gap is generally accepted accounting principles,, and it includes every item, analyze to model recurring stuff longer term and again we'll cover this again later, but this here is just table telling you how to reconcile between the non-gap and the gap. , and so the way you get non- gap in this case here is you take the accounting earnings and then you add back stuff that was non-cash, ? so if you gave employees stock based compensation, that's not really cash-based line item, and the same thing goes with non-cash other stuff. like depreciation etc. we covered that already. , and then at the bottom here of the press release they say, hey, we're going to have our result, webcast and conference call very soon, blah blah, so look like it was actually this one here was an hour after the market closed that day,, that's 2 pm san Francisco time, which is 5 pm new York time, which is an hour after 4 pm, and then they say here, put this on your radar screen, we're going to have a pretty cool events that you can come to or you can listen to over the internet ,and then there's bunch of legal disclosures, and if you have additional questions, you can contact LinkedIn investor relations there, or LinkedIn press there as well., so let's see what else they have when it comes to financials, oh, interactive statements, that looks cool, , cool, so what you can do here is you can look at every line item in all their financial statements and there are cool little charts that pop up, I think, yeah, there we go, , so sales and marketing, remember the best analysts in the world look for trend.in the data, you learn to read financial statements like a good book, and here we have sales and marketing trends over the past i quarters, whatever it is, and this is just all the raw data here, lot of times it's easier to look at charts though, because you can pick up trends , so looks like all their expenses are increasing, revenue is let's see revenue here, revenue is increasing of course, , and then oh cool, this is new, you can build a chart, you can actually map out everything here, usually do it directly in Microsoft Excel, but you can actually create them here directly, that's pretty cool, neat, huh, that must be new, cash flow as well, and then earnings per share.as an example, because this is our case study in this course, so there's a number of different filings that companies have to file with sec.gov. , in fact every company that's publicly traded has to submit files on a regular basis to scc.gov so that you and i have the same access to information

for free that all the large hedge funds and mutual funds do. so, there's a bunch of different reports. let me kick it off with the 10Q. this is a quarterly report and I'll show you an example in a couple slides. I nk d for LinkedIn and there's just a wealth of information here and this is sorted by date and an 8k as I mentioned earlier means a material or important press release this is the quarterly report called the 10q and this is an awesome one called the 10k and before we do any of this let me do search on the s1 so when a company goes public by law they have to file what's called an s1 and LinkedIn went public think it was during the summer 2011 so a couple months before they go public they usually file the s1 so let's take a look and let's click here and the s1 is amazing because it basically tells you everything you need to know about a company before you consider investing and there's so many lawyers in the US uh which makes in the first couple slides here for an S1 and then you jump into the text and you can read about the risk factors, the use of proceeds from the IPO, what would they do with all that cache? uh, you can learn all about the management team, the business model etc. It's just incredible document , legal issues as well and all the financial stuff you need to know, executive compensation, all that good stuff, but let me go back here, let's just take a look at the most recent filing for the annual report which is is a 10k 10 dash kg. cools since the company's only been public since 2011 it doesn't have that many annual reports filed the most recent one was filed in February of 2016 let 'stake a look let's open it up here and this documents amazing and you've got everything you need to know about the company listed here this is a great way for you to get up to speed a company you can't professional network or 400 million subscribers yada all that good stuff and here's where you go to find out more about the competition ? so they mentioned that Facebook is a competitor, google to lesser extent Microsoft and twitter, i don't really think that LinkedIn has any credible competition and i actually i can't think of another technology company out there that doesn't have any competition literally, mean google obviously is dominant in search but some people still use yahoo, i don't know who they are but they do and some people use Bing whatever from Microsoft, but LinkedIn really doesn't have much competition, it's incredible. Here they talk about seasonality of the business, which means that some quarters are better than others, and then we get into risk factors here, and one of the risks highlighted is security? There are web attacks all the time. Here's another risk, which is mobile. I find that sometimes the mobile apps i've used in the past with LinkedIn weren't that robust, although it is getting lot better now. And let's go back to the table of contents... so, we looked into the business, learned a little bit about the risks. always recommend reading the management discussion and analysis, of the financial condition of the company? and you can read through this if you want, but here is where they disclose more information on how each region is doing, and recall that was also in the earnings press release when we went to invest relations. And there's a lot of great data in here that's also included in the earnings press releases, but this has much more additional. Details and here we have revenue by product and here's where you can go to read more about the financial statements, but we covered a lot of this in the investor relation section in this course, but this is actually a good resource if you can't get historical data going back many years on some companies ,so sometimes they only provide a couple years of data on the investor relations website, but you can always go to scc.gov and look back as far as you can, and here's where we can read more about the management team ,and they even actually disclose the Sal. I don't know why they

do that, but anyway it's there, and that is a 10.