

In every business enterprise, various transactions and events take place every day; sales are affected, purchases are made, expenses are met or incurred, payments are received and made, assets are sold and acquired.

Concept of Managerial Accounting

The managerial accounting team of Anglo-American Council on Productivity defined managerial accounting as: "The presentation of accounting information in such a way as to assist management in the creation of policy and in day-to-day operation of an understanding"

American Accounting Association defines managerial accounting as under: The application of appropriate techniques and concepts in processing historical and projected economic data of an entity to assist management in establishing plans for reasonable economic objectives and in the making of rational decisions with a view towards these objectives".

J Batty defines: "Managerial accounting is the term used to describe accounting methods, systems and techniques which coupled with special knowledge and ability, assists management in its task of maximizing profits or minimizing losses"

Brown and Howard define: "Management accounting is that aspect of accounting which is concerned with the efficient management of a business through the presentation of management of such information as will facilitate efficient and opportune planning and control"

Managerial accounting is concerned with accounting information which is useful to management"

According to CIMA, London: Managerial accounting is an integral part of management concerned with identifying, presenting, and interpreting information used for:

- (a) formulating strategy.
- (3) devise workable standards of performance matching to the responsibilities and measure the performance and assist in the

An analysis of the above definitions enables us to define management accounting as the processing and presenting of accounting, cost accounting and other economic data, both historical and projected, in such a way as would assist in the performance evaluation of managerial functions, viz. It operates as a double-edged sword assisting the management in proper performance of its functions of planning, decision-making and control, and at the same time, enabling the owners and other interested parties to evaluate and appraise the management of the enterprise

Tools and Techniques of Managerial Accounting

A number of tool and techniques have been used under managerial accounting to help management in achieving the desired goals. Financial accounting has to be governed by the "generally accepted principles". This is so because, it has to cater for the informational needs of the outsiders. It has to stick to the generally accepted methods of presentation of such information. Regarding the contents and form of information, financial accounting has to abide by the legal provisions also.

Managerial accounting has not to worry about such legal and/or conventional constraints and the "generally accepted principles".

Based on the foregoing, we will discuss in this chapter, Route To Management, Evolution of Managerial Accounting, The Concept of Managerial Accounting , Objectives' of Managerial Accounting , Nature of Managerial Accounting, Scope of Managerial Accounting ,Tools and Techniques of Managerial Accounting ,Difference between Financial Accounting and Cost Accounting ,Difference between Financial Accounting and Managerial Accounting ,Difference between Cost Accounting and Managerial Accounting ,Limitations of Managerial Accounting ,Conflicts in Profit versus Value Maximization Principle and Finally, Role of Managerial Accountant in Decision Making.

Financial accounting executes the function of exposing a true and fair overall picture of the results or activities carried on by an enterprise during a period (via statement of profit and loss) and its

financial position at the end of the year (via balance sheet) ?Also, on the basis of financial accounting, effective control can be exercised on the property and assets of the enterprise to ensure that they are not ?misused or misappropriated. ?Objectives of Managerial Accounting ?The fundamental objective of managerial accounting is to assist the management in carrying out its duties efficiently so that maximize profits or minimize losses of management. ?The main difference between financial accounting and cost accounting ?are summarised below: ?1) Financial accounting aims at safeguarding the interests of the business and its proprietors and others connected with it. This is done by providing suitable information to various parties, such as shareholders or partners, present or prospective creditors etc. ?Both have the same objectives of assisting management in its functions of planning, decision-making, controlling and techniques like budgetary control, standard costing and marginal costing owe their existence to cost accounting ?and have slipped into the kitbag of the managerial accountant. Managerial accounting is concerned equally with short-range and long-range planning and uses highly sophisticated techniques like sensitivity analysis, probability structures, etc., in the planning and forecasting prices. ?Managerial accounting collects and provides accounting, cost accounting, economic and statistical information to the men at various managerial levels to assist them in the performance of managerial functions and ?their evaluations. It is the development and application of various techniques of recording, analysis, interpretation, and presentation, making the financial, costing, and other data active and effective in the performance of managerial functions, viz., ?planning, decision-making and control. The main objective of the management is to manage the company following a managing pattern comprised of formulation of plan, allocation of responsibilities for implementing the plan, organizing procedures to assist in the ?execution of the plan, and control of the performance. ?Financial policies may relate to the determination of the capital requirement, sources of funds, determination and distribution of income, use of debt and equity capital and the determination of the optimum level of ?investment in various areas. ?On the other hand, Managerial Accounting refers to managerial processes and technologies that are focused on adding value to organizations by attaining the effective use of resources, in dynamic and competitive contexts. ?In managerial accounting fixed assets may be stated at appraisal values, overhead costs may be omitted from inventories or revenues may be recorded before realization. Managerial accounting statements in addition to monetary information also consist non-monetary information, viz., quantities of materials consumed, number of workers, quantities produced and sold and ?so on. ?9. ?Conflicts in Profit Versus Value Maximization Principle ?A process that businesses undergo to determine the best output and price levels in order to maximize its income. Because outside suppliers of capital relied on audited financial statements, independent accountants had a keen interest in establishing well defined ?procedures for corporate financial reporting. ?To assist in this process, the accounting system provides to the ?management the following information viz: (1) data designed to assist in the formulation of a plan covering all business functions, ?(2) transform the project in quantitative terms with sources available to finance the project costs. planning, decision- making and control ?Processing and presenting of the data involve the use of techniques of cost accounting, budgetary control, standard costing, break-even analysis, ?ratio-analysis, funds, and cash flow analysis, etc. To formulate Planning and policy: ?Planning involves

forecasting on the basis of available information, setting goals; framing policies determining the alternative courses of action and deciding on the program of activities. Providing methods and techniques for evaluating the performance of the management in the light of the objectives of the enterprises, thus assisting in the implementation of the principle of management by objectives.

(3) Decision Making: Managerial accounting helps the management through the techniques of marginal costing, differential costing, capital budgeting, cash flow analysis, discounted cash flow etc. Investment decisions relate to the effective deployment of scarce resources in terms of funds while the Financing decisions are concerned with acquiring optimum finance for attaining financial objectives.

(11) Financial accounts do not provide information on the relative efficiencies of various workers, plants, and machinery, while cost accounts provide valuable information on the relative efficiencies of various plants and machinery.

(12) Financial reports (profit and loss account and balance sheet) are prepared periodically – quarterly, half yearly or annual basis. The approach of the cost accountant is much narrower than that of a managerial accountant, who may have to use certain economic and statistical data along with the costing data to enable the management to be more accurate in its functions of planning, decision-making and control. The data provided if it has to be really effective in the management process, must be

- (1) relevant and precise,
- (2) consistent and comparable,
- (3) presented in an appropriate and understandable form,
- (4) provided at appropriate time intervals, and
- (5) provided to meet the needs of various levels of management.

During this early period, most firms were tightly controlled by a few owner-managers who borrowed based on personal relationships and their personal assets. Since there were no external shareholders and little unsecured debt, there was little need for elaborate financial reports. In contrast, managerial accounting was relatively sophisticated and provided the essential information needed to manage the early large-scale production of textile, steel, and other products.

After the turn of the century, financial accounting requirements grow rapidly because of new pressures placed on companies by capital markets, creditors, regulatory bodies, and federal taxation of income. By pin-pointing the significant deviations between actual and expected activities, and by adhering to the principles of selectivity and relevance, such reports help in the installation and operation of the system of 'management by exceptions.'

(6) Reporting: Managerial accountant prepares the necessary reports for providing information to the different levels of management by proper selection of data to be presented, organization of data or selecting the appropriate method of reporting.

Difference Between Financial Accounting and Cost Accounting

Both financial accounting and cost accounting are concerned with systematic recording and presentation of financial data. Financial accounting reveals profits and losses of the business as a whole during a particular period, while cost accounting shows, by analysis and localization, the unit costs and profits and losses of different product lines. Managerial accounting, in addition to the tools and techniques, like variable costing, break-even analysis, standard costing, etc., available to cost accounting, also makes use of other techniques like cash flow, ratio analysis, etc., which are not within the scope of cost accounting. In addition, in the working out of the estimates and future costs, approximation has to be resorted to. Even in case of historical data, the cost and time required for accuracy may be prohibitive and compel the management accountant to do some approximations. In a communitarian company, broadly educated college graduates develop a

cumulative multi-function knowledge of the organization before they become managers. College graduates who have specialized in a particular area of study such as industrial engineering, accounting, or marketing are hired by organizations to work in that particular functional area. As a consequence, for many decades, management accountants increasingly focused their efforts on ensuring that financial accounting requirements were met, and financial reports were released on time. But in most companies, management accounting practices up through the mid-1980s were largely indistinguishable from practices that were common prior to World War I. In recent years, however, new economic forces have led to many important innovations in management accounting. In the decision-making process management accounting provides selective and fruitful information out of the data collected.

3) Management accounting is a technique of selective nature: Management accountant takes into account only those data from the financial statement and communicates to the management which is useful for taking decisions.

Scope of Managerial Accounting Managerial accounting includes financial accounting and extends to the operation of a system of cost accountancy, budgetary control, and statistical data. While meeting the legal and conventional requirements regarding the presentation of financial statements, (profit and loss account, balance sheet and cash flow statements) it stresses emphasis upon the establishment and operation of internal controls. Such analysis assists management in the location of responsibilities and to effect necessary changes in the organizational set up to achieve the objectives of the enterprise in a more efficient manner.

Assisting management in decision-making by:

- (a) providing relevant accounting, other data and
- (b) analyzing the effect of alternative proposals on the profits and position of the enterprise.

It includes determining both long term and short-term financial objectives, formulating financial policies and developing the financial procedures etc.

5) Statistical and Graphical Techniques: Managerial accountant uses various statistical and graphical techniques in order to make the information more meaningful and presentation of the same in such a form so that it may help the management in decision making. To that extent financial accounting helps to assess the overall progress of a concern, its strength, and weaknesses by providing the figures relating to several previous years. Data provided by Cost and Financial Accounting is further used for the management of all processes associated with the efficient acquisition and deployment of short-, medium- and long-term financial resources. Hence, Managerial Accounting is a distinctive form of resource management which facilitates management's 'decision making' by producing information for managers within an organization. Managerial accounting, in addition to the study of events in relation to the enterprise as a whole takes organization in its various units and segments and attempts to trace the impact and effect of the business transactions and events through its various divisions and sub-divisions. Since financial accounting data is historical in nature, it is more precise than the managerial accounting data, which generally reflects the expected future, and hence could only be an estimation. Cost accounting data generally serves as a base to which the tools and techniques of managerial accounting can be applied to make it more purposeful and management oriented.

Limitations of Managerial Accounting The management accountant has the responsibility of producing and providing dependable accounting and other relevant data for the use of management. A company's equity shares are actively traded in the stock exchanges, the wealth of the equity shareholders is represented in market value of the equity

?shares. ?Since they affect the operation and position of the enterprise, they need to be measured, recorded, analyzed, and reported to the managerial, so that the ?management can evaluate their effect upon the enterprise. ?Managerial accounting systematic allocate responsibilities for implementation of plans and budgets. It presents accounting information with the help of statistical devices like charts, diagrams, graphs, etc. To Facilitate Coordination of Operations: ?Managerial accounting provides tools for overall control and coordination of business operations. ?Nature of Managerial Accounting ?The following aspects are considered as the nature of management accounting ?1) Managerial accounting is a decision-making system: ?Managerial accounting provides accounting information in such a way as to assist management in the creation of policy and in the day-to-day operations. ?The managerial accountant is expected to analyze the deviation by reasons and responsibility and to suggest appropriate corrective measures in ?deserving cases. Improving, modifying, and sharpening the effectiveness of co-existing techniques of analysis. ?The techniques of linear programming, statistical quality control, ?investment chart, sales and earning chart etc. 1 ?3) Financial accounting emphasizes the measurement of profitability, while cost accounting aims at ascertainment of costs and accumulates data for ?this very purpose. ?5) Financial accounting provides operating results and financial position usually gives information through cost reports to the management as ?and when desired ?6) Financial accounts deal mainly with actual facts and figures, but ?cost accounts deal partly with facts and figures and partly with estimates. Financial accounting is attached more with reporting the results and position of the business to persons and authorities other than management – Government, creditors, investors, owners, etc. Even in case of sole proprietorship and partnership firms financial accounting becomes a necessity for tax purposes. The most common source of confusion is the word 'cost' ?There are historical costs, full costs, direct costs, variable costs, standard costs, original costs, residual costs, net costs, differential costs, opportunity costs, estimated cost and incremental costs. ?The wealth maximization is now redefined as value maximization, since the goal of management is to maximize the present wealth of the owners, i.e., equity shareholders of a company. For a business, it is not necessary that profit should be the only objective; it may concentrate on various other aspects like increasing sales, capturing more market share etc., which will take care of profitability. It should be noted that managerial accounting makes use of not only accounting techniques but also of statistical and mathematical techniques. ?Their orientation to a specific business function enhances their mobility in the external labor market, but they are frequently locked into their chosen specialty area. Disloyalty to the company is not an insoluble problem for the organization in an individualistic system however, because a functional ?specialist can be easily replaced with another functional specialist. ?Evolution of Managerial Accounting ?Managerial accounting has its roots in the industrial revolution of the 19th century. ?Many firms needed to raise funds from increasingly widespread and detached suppliers of capital. ?The above involves participation in management to ensure that there is effective: ?(1) formulation of plans to meet objectives (strategic planning). To assist in Decision-making process: ?Managerial accounting makes decision-making process more scientific with the help of various modern techniques. Information/figure relating to cost, price, profit, and savings for each of the available alternatives are collected and analyzed accordingly which will provide a base for taking sound decisions. ?4) Managerial accounting analyses different

variables: ?Managerial accounting helps in analyzing the reasons for variations in profit as compared to the past period. ?5) Managerial accounting does not set particular formats for information: ?It provides necessary information to the management in the form which may be more useful to the management in taking various decisions on different aspects of the business. ?The scope of managerial accounting, inter alia includes: ?1. The accounts and the document files are repository of vast quantities of details about the past progress of the enterprise, without which forecasts of ?the future is very hazardous for the enterprise. Thus, management accounting serves not only as a tool in the hands of management, but also provides for a technique of evaluating the performance ?of the management itself. The objective of Financial Management is to maximize the wealth of shareholders ?by taking effective Investment, Financing and Dividend decisions. ?The last and very important 'Dividend decision' relates to the determination of the amount and frequency of cash which can be paid out of ?profits to shareholders. This enables the management to eliminate less profitable product lines ?and maximize the profits by concentrating on more profitable ones. ?Difference Between Financial Accounting and Managerial Accounting ?Financial accounting and managerial accounting both appear to be similar in as much as both study the impact of business transactions and events ?of the enterprise and report and interpret the results thereof. But managerial accounting, although having its roots in financial accounting ?differs from the latter in the following respects. Managerial accounting reports emphasize on the details of operational costs, inventories, products, process, and jobs. In managerial accounting, weekly, ?fortnightly, and even monthly reporting is used. Managerial accounting statements are for internal use and ?thus neither published nor audited ?Difference Between Cost Accounting and Managerial Accounting ?Cost accounting and managerial accounting both are internal to the ?organization. It is the managerial accountant who is supposed to have a clear idea regarding the items and types of costs required to analyses and decide specific business problems and the effect of such costs on alternate solutions. Managerial accounting is concerned, both, with assisting management in its functions, as well as evaluating the performance of the management as an institution. However, the information and reports presented by management accountant still suffers from the following ?limitations: ?1) Different meaning of the same term: ?In accounting different terms carry different meanings under different set of circumstances and conditions. ?For example, the management accounting data will not disclose the extent to which the quality and utility of a product is affected by the changes in ?materials or methods of production. The business will usually adjust influential factors such as production costs, sale prices, and output levels as a way of reaching its profit goal. ?2. ?3. ?4. ?5. ?6. ?7. ?8. ?9. ?10. ?11. ?12. ?13. ?14. ?15. ?16. ?17. ?18. ?19. ?20. ?21. ?22. ?23. ?24. ?25. ?26. ?27. ?28. ?29. ?30. ?31. ?32. ?33. ?34. ?35. ?36. ?37. ?38. ?39. ?40. ?41. ?42. ?43. ?44. ?45. ?46. ?47. ?48. ?49. ?50. ?51. ?52. ?53. ?54. ?55. ?56. ?57. ?58. ?59. ?60. ?61. ?62. ?63. ?64. ?65. ?66. ?67. ?68. ?69. ?70. ?71. ?72. ?73. ?74. ?75. ?76. ?77. ?78. ?79. ?80. ?81. ?82. ?83. ?84. ?85. ?86. ?87. ?88. ?89. ?90. ?91. ?92. ?93. ?94. ?95. ?96. ?97. ?98. ?99. ?100. ?101. ?102. ?103. ?104. ?105. ?106. ?107. ?108. ?109. ?110. ?111. ?112. ?113. ?114. ?115. ?116. ?117. ?118. ?119. ?120. ?121. ?122. ?123. ?124. ?125. ?126. ?127. ?128. ?129. ?130. ?131. ?132. ?133. ?134. ?135. ?136. ?137. ?138. ?139. ?140. ?141. ?142. ?143. ?144. ?145. ?146. ?147. ?148. ?149. ?150. ?151. ?152. ?153. ?154. ?155. ?156. ?157. ?158. ?159. ?160. ?161. ?162. ?163. ?164. ?165. ?166. ?167. ?168. ?169. ?170. ?171. ?172. ?173. ?174. ?175. ?176. ?177. ?178. ?179. ?180. ?181. ?182. ?183. ?184. ?185. ?186. ?187. ?188. ?189. ?190. ?191. ?192. ?193. ?194. ?195. ?196. ?197. ?198. ?199. ?200. ?201. ?202. ?203. ?204. ?205. ?206. ?207. ?208. ?209. ?210. ?211. ?212. ?213. ?214. ?215. ?216. ?217. ?218. ?219. ?220. ?221. ?222. ?223. ?224. ?225. ?226. ?227. ?228. ?229. ?230. ?231. ?232. ?233. ?234. ?235. ?236. ?237. ?238. ?239. ?240. ?241. ?242. ?243. ?244. ?245. ?246. ?247. ?248. ?249. ?250. ?251. ?252. ?253. ?254. ?255. ?256. ?257. ?258. ?259. ?260. ?261. ?262. ?263. ?264. ?265. ?266. ?267. ?268. ?269. ?270. ?271. ?272. ?273. ?274. ?275. ?276. ?277. ?278. ?279. ?280. ?281. ?282. ?283. ?284. ?285. ?286. ?287. ?288. ?289. ?290. ?291. ?292. ?293. ?294. ?295. ?296. ?297. ?298. ?299. ?300. ?301. ?302. ?303. ?304. ?305. ?306. ?307. ?308. ?309. ?310. ?311. ?312. ?313. ?314. ?315. ?316. ?317. ?318. ?319. ?320. ?321. ?322. ?323. ?324. ?325. ?326. ?327. ?328. ?329. ?330. ?331. ?332. ?333. ?334. ?335. ?336. ?337. ?338. ?339. ?340. ?341. ?342. ?343. ?344. ?345. ?346. ?347. ?348. ?349. ?350. ?351. ?352. ?353. ?354. ?355. ?356. ?357. ?358. ?359. ?360. ?361. ?362. ?363. ?364. ?365. ?366. ?367. ?368. ?369. ?370. ?371. ?372. ?373. ?374. ?375. ?376. ?377. ?378. ?379. ?380. ?381. ?382. ?383. ?384. ?385. ?386. ?387. ?388. ?389. ?390. ?391. ?392. ?393. ?394. ?395. ?396. ?397. ?398. ?399. ?400. ?401. ?402. ?403. ?404. ?405. ?406. ?407. ?408. ?409. ?410. ?411. ?412. ?413. ?414. ?415. ?416. ?417. ?418. ?419. ?420. ?421. ?422. ?423. ?424. ?425. ?426. ?427. ?428. ?429. ?430. ?431. ?432. ?433. ?434. ?435. ?436. ?437. ?438. ?439. ?440. ?441. ?442. ?443. ?444. ?445. ?446. ?447. ?448. ?449. ?450. ?451. ?452. ?453. ?454. ?455. ?456. ?457. ?458. ?459. ?460. ?461. ?462. ?463. ?464. ?465. ?466. ?467. ?468. ?469. ?470. ?471. ?472. ?473. ?474. ?475. ?476. ?477. ?478. ?479. ?480. ?481. ?482. ?483. ?484. ?485. ?486. ?487. ?488. ?489. ?490. ?491. ?492. ?493. ?494. ?495. ?496. ?497. ?498. ?499. ?500. ?501. ?502. ?503. ?504. ?505. ?506. ?507. ?508. ?509. ?510. ?511. ?512. ?513. ?514. ?515. ?516. ?517. ?518. ?519. ?520. ?521. ?522. ?523. ?524. ?525. ?526. ?527. ?528. ?529. ?530. ?531. ?532. ?533. ?534. ?535. ?536. ?537. ?538. ?539. ?540. ?541. ?542. ?543. ?544. ?545. ?546. ?547. ?548. ?549. ?550. ?551. ?552. ?553. ?554. ?555. ?556. ?557. ?558. ?559. ?560. ?561. ?562. ?563. ?564. ?565. ?566. ?567. ?568. ?569. ?570. ?571. ?572. ?573. ?574. ?575. ?576. ?577. ?578. ?579. ?580. ?581. ?582. ?583. ?584. ?585. ?586. ?587. ?588. ?589. ?590. ?591. ?592. ?593. ?594. ?595. ?596. ?597. ?598. ?599. ?600. ?601. ?602. ?603. ?604. ?605. ?606. ?607. ?608. ?609. ?610. ?611. ?612. ?613. ?614. ?615. ?616. ?617. ?618. ?619. ?620. ?621. ?622. ?623. ?624. ?625. ?626. ?627. ?628. ?629. ?630. ?631. ?632. ?633. ?634. ?635. ?636. ?637. ?638. ?639. ?640. ?641. ?642. ?643. ?644. ?645. ?646. ?647. ?648. ?649. ?650. ?651. ?652. ?653. ?654. ?655. ?656. ?657. ?658. ?659. ?660. ?661. ?662. ?663. ?664. ?665. ?666. ?667. ?668. ?669. ?670. ?671. ?672. ?673. ?674. ?675. ?676. ?677. ?678. ?679. ?680. ?681. ?682. ?683. ?684. ?685. ?686. ?687. ?688. ?689. ?690. ?691. ?692. ?693. ?694. ?695. ?696. ?697. ?698. ?699. ?700. ?701. ?702. ?703. ?704. ?705. ?706. ?707. ?708. ?709. ?710. ?711. ?712. ?713. ?714. ?715. ?716. ?717. ?718. ?719. ?720. ?721. ?722. ?723. ?724. ?725. ?726. ?727. ?728. ?729. ?730. ?731. ?732. ?733. ?734. ?735. ?736. ?737. ?738. ?739. ?740. ?741. ?742. ?743. ?744. ?745. ?746. ?747. ?748. ?749. ?750. ?751. ?752. ?753. ?754. ?755. ?756. ?757. ?758. ?759. ?760. ?761. ?762. ?763. ?764. ?765. ?766. ?767. ?768. ?769. ?770. ?771. ?772. ?773. ?774. ?775. ?776. ?777. ?778. ?779. ?780. ?781. ?782. ?783. ?784. ?785. ?786. ?787. ?788. ?789. ?790. ?791. ?792. ?793. ?794. ?795. ?796. ?797. ?798. ?799. ?800. ?801. ?802. ?803. ?804. ?805. ?806. ?807. ?808. ?809. ?810. ?811. ?812. ?813. ?814. ?815. ?816. ?817. ?818. ?819. ?820. ?821. ?822. ?823. ?824. ?825. ?826. ?827. ?828. ?829. ?830. ?831. ?832. ?833. ?834. ?835. ?836. ?837. ?838. ?839. ?840. ?841. ?842. ?843. ?844. ?845. ?846. ?847. ?848. ?849. ?850. ?851. ?852. ?853. ?854. ?855. ?856. ?857. ?858. ?859. ?860. ?861. ?862. ?863. ?864. ?865. ?866. ?867. ?868. ?869. ?870. ?871. ?872. ?873. ?874. ?875. ?876. ?877. ?878. ?879. ?880. ?881. ?882. ?883. ?884. ?885. ?886. ?887. ?888. ?889. ?890. ?891. ?892. ?893. ?894. ?895. ?896. ?897. ?898. ?899. ?900. ?901. ?902. ?903. ?904. ?905. ?906. ?907. ?908. ?909. ?910. ?911. ?912. ?913. ?914. ?915. ?916. ?917. ?918. ?919. ?920. ?921. ?922. ?923. ?924. ?925. ?926. ?927. ?928. ?929. ?930. ?931. ?932. ?933. ?934. ?935. ?936. ?937. ?938. ?939. ?940. ?941. ?942. ?943. ?944. ?945. ?946. ?947. ?948. ?949. ?950. ?951. ?952. ?953. ?954. ?955. ?956. ?957. ?958. ?959. ?960. ?961. ?962. ?963. ?964. ?965. ?966. ?967. ?968. ?969. ?970. ?971. ?972. ?973. ?974. ?975. ?976. ?977. ?978. ?979. ?980. ?981. ?982. ?983. ?984. ?985. ?986. ?987. ?988. ?989. ?990. ?991. ?992. ?993. ?994. ?995. ?996. ?997. ?998. ?999. ?1000. ?1001. ?1002. ?1003. ?1004. ?1005. ?1006. ?1007. ?1008. ?1009. ?1010. ?1011. ?1012. ?1013. ?1014. ?1015. ?1016. ?1017. ?1018. ?1019. ?1020. ?1021. ?1022. ?1023. ?1024. ?1025. ?1026. ?1027. ?1028. ?1029. ?1030. ?1031. ?1032. ?1033. ?1034. ?1035. ?1036. ?1037. ?1038. ?1039. ?1040. ?1041. ?1042. ?1043. ?1044. ?1045. ?1046. ?1047. ?1048. ?1049. ?1050. ?1051. ?1052. ?1053. ?1054. ?1055. ?1056. ?1057. ?1058. ?1059. ?1060. ?1061. ?1062. ?1063. ?1064. ?1065. ?1066. ?1067. ?1068. ?1069. ?1070. ?1071. ?1072. ?1073. ?1074. ?1075. ?1076. ?1077. ?1078. ?1079. ?1080. ?1081. ?1082. ?1083. ?1084. ?1085. ?1086. ?1087. ?1088. ?1089. ?1090. ?1091. ?1092. ?1093. ?1094. ?1095. ?1096. ?1097. ?1098. ?1099. ?1100. ?1101. ?1102. ?1103. ?1104. ?1105. ?1106. ?1107. ?1108. ?1109. ?1110. ?1111. ?1112. ?1113. ?1114. ?1115. ?1116. ?1117. ?1118. ?1119. ?1120. ?1121. ?1122. ?1123. ?1124. ?1125. ?1126. ?1127. ?1128. ?1129. ?1130. ?1131. ?1132. ?1133. ?1134. ?1135. ?1136. ?1137. ?1138. ?1139. ?1140. ?1141. ?1142. ?1143. ?1144. ?1145. ?1146. ?1147. ?1148. ?1149. ?1150. ?1151. ?1152. ?1153. ?1154. ?1155. ?1156. ?1157. ?1158. ?1159. ?1160. ?1161. ?1162. ?1163. ?1164. ?1165. ?1166. ?1167. ?1168. ?1169. ?1170. ?1171. ?1172. ?1173. ?1174. ?1175. ?1176. ?1177. ?1178. ?1179. ?1180. ?1181. ?1182. ?1183. ?1184. ?1185. ?1186. ?1187. ?1188. ?1189. ?1190. ?1191. ?1192. ?1193. ?1194. ?1195. ?1196. ?1197. ?1198. ?1199. ?1200. ?1201. ?1202. ?1203. ?1204. ?1205. ?1206. ?1207. ?1208. ?1209. ?1210. ?1211. ?1212. ?1213. ?1214. ?1215. ?1216. ?1217. ?1218. ?1219. ?1220. ?1221. ?1222. ?1223. ?1224. ?1225. ?1226. ?1227. ?1228. ?1229. ?1230. ?1231. ?1232. ?1233. ?1234. ?1235. ?1236. ?1237. ?1238. ?1239. ?1240. ?1241. ?1242. ?1243. ?1244. ?1245. ?1246. ?1247. ?1248. ?1249. ?1250. ?1251. ?1252. ?1253. ?1254. ?1255. ?1256. ?1257. ?1258. ?1259. ?1260. ?1261. ?1262. ?1263. ?1264. ?1265. ?1266. ?1267. ?1268. ?1269. ?1270. ?1271. ?1272. ?1273. ?1274. ?1275. ?1276. ?1277. ?1278. ?1279. ?1280. ?1281. ?1282. ?1283. ?1284. ?1285. ?1286. ?1287. ?1288. ?1289. ?1290. ?1291. ?1292. ?1293. ?1294. ?1295. ?1296. ?1297. ?1298. ?1299. ?1300. ?1301. ?1302. ?1303. ?1304. ?1305. ?1306. ?1307. ?1308. ?1309. ?1310. ?1311. ?1312. ?1313. ?1314. ?1315. ?1316. ?1317. ?1318. ?1319. ?1320. ?1321. ?1322. ?1323. ?1324. ?1325. ?1326. ?1327. ?1328. ?1329. ?1330. ?1331. ?1332. ?1333. ?1334. ?1335. ?1336. ?1337. ?1338. ?1339. ?1340. ?1341. ?1342. ?1343. ?1344. ?1345. ?1346. ?1347. ?1348. ?1349. ?1350. ?1351. ?1352. ?1353. ?1354. ?1355. ?1356. ?1357. ?1358. ?1359. ?1360. ?1361. ?1362. ?1363. ?1364. ?1365. ?1366. ?1367. ?1368. ?1369. ?1370. ?1371. ?1372. ?1373. ?1374. ?1375. ?1376. ?1377. ?1378. ?1379. ?1380. ?1381. ?1382. ?1383. ?1384. ?1385. ?1386. ?1387. ?1388. ?1389. ?1390. ?1391. ?1392. ?1393. ?1394. ?1395. ?1396. ?1397. ?1398. ?1399. ?1400. ?1401. ?1402. ?1403. ?1404. ?1405. ?1406. ?1407. ?1408. ?1409. ?1410. ?1411. ?1412. ?1413. ?1414. ?1415. ?1416. ?1417. ?1418. ?1419. ?1420. ?1421. ?1422. ?1423. ?1424. ?1425. ?1426. ?1427. ?1428. ?1429. ?1430. ?1431. ?1432. ?1433. ?1434. ?1435. ?1436. ?1437. ?1438. ?1439. ?1440. ?1441. ?1442. ?1443. ?1444. ?1445. ?1446. ?1447. ?1448. ?1449. ?1450. ?1451. ?1452. ?1453. ?1454. ?1455. ?1456. ?1457. ?1458. ?1459. ?1460. ?1461. ?1462. ?1463. ?1464. ?1465. ?1466. ?1467. ?1468. ?1469. ?1470. ?1471. ?1472. ?1473. ?1474. ?1475. ?1476. ?1477. ?1478. ?1479. ?1480. ?1481. ?1482. ?1483. ?1484. ?1485. ?1486. ?1487. ?1488. ?1489. ?1490. ?1491. ?1492. ?1493. ?1494. ?1495. ?1496. ?1497. ?1498. ?1499. ?1500. ?1501. ?1502. ?1503. ?1504. ?1505. ?1506. ?1507. ?1508. ?1509. ?1510. ?1511. ?1512. ?1513. ?1514. ?1515. ?1516. ?1517. ?1518. ?1519. ?1520. ?1521. ?1522. ?1523. ?1524. ?1525. ?1526. ?1527. ?1528. ?1529. ?1530. ?1531. ?1532. ?1533. ?1534. ?1535. ?1536. ?1537. ?1538. ?1539. ?1540. ?1541. ?1542. ?1543. ?1544. ?1545. ?1546. ?1547. ?1548. ?1549. ?1550. ?1551. ?1552. ?1553. ?1554. ?1555. ?1556. ?1557. ?1558. ?1559. ?1560. ?1561. ?1562. ?1563. ?1564. ?1565. ?1566. ?1567. ?1568. ?1569. ?1570. ?1571. ?1572. ?1573. ?1574. ?1575. ?1576. ?1577. ?1578. ?1579. ?1580. ?1581. ?1582. ?1583. ?1584. ?1585. ?1586. ?1587. ?1588. ?1589. ?1590. ?1591. ?1592. ?1593. ?1594. ?1595. ?1596. ?1597. ?1598. ?1599. ?1600. ?1601. ?1602. ?1603. ?1604. ?1605. ?1606. ?1607. ?1608. ?1609. ?1610. ?1611. ?1612. ?1613. ?1614. ?1615. ?1616. ?1617. ?1618. ?1619. ?1620. ?1621. ?1622. ?1623. ?1624. ?1625. ?1626. ?1627. ?1628. ?1629. ?1630. ?1631. ?1632. ?1633. ?1634. ?1635. ?1636. ?1637. ?1638. ?1639. ?1640. ?1641. ?1642. ?1643. ?1644. ?1645. ?1646. ?1647. ?1648. ?1649. ?1650. ?1651. ?1652. ?1653. ?1654. ?1655. ?1656. ?1657. ?1658. ?1659. ?1660. ?1661. ?1662. ?1663. ?1664. ?1665. ?1666. ?1667. ?1668. ?1669. ?1670. ?1671. ?1672. ?1673. ?1674. ?1675. ?1676. ?1677. ?1678. ?1679. ?1680. ?1681. ?1682. ?1683. ?1684. ?1685. ?1686. ?1687. ?1688. ?1689. ?1690. ?1691. ?1692. ?1693. ?1694. ?1695. ?1696. ?1697. ?1698. ?1699. ?1700. ?1701. ?1702. ?1703. ?1704. ?1705. ?1706. ?1707. ?1708. ?1709. ?1710. ?1711. ?1712. ?1713. ?1714. ?1715. ?1716. ?1717. ?1718. ?1719. ?1720. ?1721. ?1722. ?1723. ?1724. ?1725. ?1726. ?1727. ?1728. ?1729. ?1730. ?1731. ?1732. ?1733. ?1734. ?1735. ?1736. ?1737. ?1738. ?1739. ?1740. ?1741. ?1742. ?1743. ?1744. ?1745. ?1746. ?1747. ?1748. ?1749. ?1750. ?1751. ?1752. ?1753. ?1754. ?1755. ?1756. ?1757. ?1758. ?1759. ?1760. ?1761. ?1762. ?1763. ?1764. ?1765. ?1766. ?1767. ?1768. ?1769. ?1770. ?1771. ?1772. ?1773. ?1774. ?1775. ?1776. ?1777. ?1778. ?1779. ?1780. ?1781. ?1782. ?1783. ?1784. ?1785. ?1786. ?1787. ?1788. ?1789. ?1790. ?1791. ?1792. ?1793. ?1794. ?1795. ?1796. ?1797. ?1798. ?1799. ?1800. ?1801. ?1802. ?1803. ?1804. ?1805. ?1806. ?1807. ?1808. ?1809. ?1810. ?1811. ?1812. ?1813. ?1814. ?1815. ?1816. ?1817. ?1818. ?1819. ?1820. ?1821. ?1822. ?1823. ?1824. ?1825. ?1826. ?1827. ?1828. ?1829. ?1830. ?1831. ?1832. ?1833. ?1834. ?1835. ?1836. ?1837. ?1838. ?1839. ?1840. ?1841. ?1842. ?1843. ?1844. ?1845. ?1846. ?1847. ?1848. ?1849. ?1850. ?1851. ?1852. ?1853. ?1854. ?1855. ?1856. ?1857. ?1858. ?1859. ?1860. ?1861. ?1862. ?1863. ?1864. ?1865. ?1866. ?1867. ?1868. ?1869. ?1870. ?1871. ?1872. ?1873. ?1874. ?1875. ?1876. ?1877. ?1878. ?1879. ?1880. ?1881. ?1882. ?1883. ?1884. ?1885. ?1886. ?1887. ?1888. ?1889. ?1890. ?1891. ?1892. ?1893. ?1894. ?1895. ?1896. ?1897. ?1898. ?1899. ?1900. ?1901. ?1902. ?1903. ?1904. ?1905. ?1906. ?1907. ?1908. ?1909. ?1910. ?1911. ?1912. ?1913. ?1914. ?1915. ?1916. ?1917. ?1918. ?1919. ?1920. ?1921. ?1922. ?1923. ?1924. ?1925. ?1926. ?1927. ?1928. ?1929. ?1930. ?1931. ?1932. ?1933. ?1934. ?1935. ?1936. ?1937. ?1938. ?1939. ?1940. ?1941. ?1942. ?1943. ?1944. ?1945. ?1946. ?1947. ?1948. ?1949. ?1950. ?1951. ?1952. ?1953. ?1954. ?1955. ?1956. ?1957. ?1958. ?1959. ?1960. ?1961. ?1962. ?1963. ?1964. ?1965. ?1966. ?1967. ?1968. ?1969. ?1970. ?1971. ?1972. ?1973. ?1974. ?1975. ?1976. ?1977. ?1978. ?1979. ?1980. ?1981. ?1982. ?1983. ?1984. ?1985. ?1986. ?1987. ?1988. ?1989. ?1990. ?1991. ?1992. ?1993. ?1994. ?1995. ?1996. ?1997. ?1998. ?1999. ?2000. ?2001. ?2002. ?2003. ?2004. ?2005. ?2006. ?2007. ?2008. ?2009. ?2010. ?2011. ?2012. ?2013. ?2014. ?2015. ?2016. ?2017. ?2018. ?2019. ?2020. ?2021. ?2022. ?2023. ?2024. ?2025. ?2026. ?2027. ?2028. ?2029. ?2030. ?2031. ?2032. ?2033. ?2034. ?2035. ?2036. ?2037. ?2038. ?2039. ?2040. ?2041. ?2042. ?2043. ?2044. ?2045. ?2046. ?2047. ?2048. ?2049. ?2050. ?2051. ?2052. ?2053. ?2054. ?2055. ?2056. ?2057. ?2058. ?2059. ?2060. ?2061. ?2062. ?2063. ?2064. ?2065. ?2066. ?2067. ?2068. ?2069. ?2070. ?2071. ?2072. ?2073. ?2074. ?2075. ?2076. ?2077. ?2078. ?2079. ?2080. ?2081. ?2082. ?2083. ?2084. ?2085. ?2086. ?2087. ?2088. ?2089. ?2090. ?2091. ?2092. ?2093. ?2094. ?2095. ?2096. ?2097. ?2098. ?2099. ?2100. ?2101. ?2102. ?2103. ?2104. ?2105. ?2106. ?2107. ?2108. ?2109. ?2110. ?2111. ?2112. ?2113. ?2114. ?2115. ?2116. ?2117. ?2118. ?2119. ?2120. ?2121. ?2122. ?2123. ?2124. ?2125. ?2126. ?2127. ?2128. ?2129. ?2130. ?2131. ?2132. ?2133. ?2134. ?2135. ?2136. ?2137. ?2138. ?2139. ?2140. ?2141. ?2142. ?2143. ?2144. ?2145. ?2146. ?2147. ?2148. ?2149. ?2150. ?2151. ?2152. ?2153. ?2154