● Data" refers to raw, individual pieces of information like numbers, text, or images, with no inherent context ● In this era dominated by technology, data availability is the key to any business or organization's success. Before we go any further into its importance and management, let us define the term data. ● Put in simple words, data can be defined as a collection of a distinct unit of information. It refers to each item that is stored in a database. Data can be stored in multiple different forms depending on its requirement and usage. It can be in the form of text, numbers, images, or any other media. ● Raw data collected from different sources have to be processed and cleaned before it can be used to make decisions in any organization 5.11.2024 Assoc.Prof.Dr. Yuksel Celik / ESOF315 DBMS 2 What is Databases ? ● The database is an organized collection of structured information or data stored in a computer in electronic format. It enhances the accessibility and manageability of the data and makes it easier to update and alter. The use of a database also increases the accuracy and reliability of the data. In short, we can describe a database as any place where data is organized and stored. ● A database system is a term used to describe the collection of data, the database management system, and any other applications that might be used in the process of storing and processing data. 5.11.2024 Assoc.Prof.Dr. Yuksel Celik / ESOF315 DBMS 3 Importance of Databases ● Databases are critical in various domains, including business, healthcare, education, and more. They facilitate: ● Data Organization: Helping manage large volumes of data in a structured way, making it easier to store, update, and retrieve information. ● Data Integrity: Ensuring consistency and accuracy through rules and constraints. ● Accessibility and Efficiency: Allowing multiple users and applications to access and manipulate data quickly and efficiently. ● Security: Providing access control mechanisms to safeguard sensitive data. ● Scalability: Supporting the growth of data and user base over time