

IT (Information Technology)

*Department of Industrial Engineering
Sharif University of Technology*

Session# 4



Course Description (Continued..)

- *Contents:*
- *The role of managers in Information Technology (IT)* (3 sessions)
- *Organizational Issues* (3 sessions)
- *Information Technology* (9 sessions)
- *Operational and enterprises systems* (4 sessions)
- *Exciting directions in systems* (3 sessions)
- *E-Business and E-Commerce* (3 sessions)
- *Issues for senior management* (2 sessions)



Course Description (Continued..)

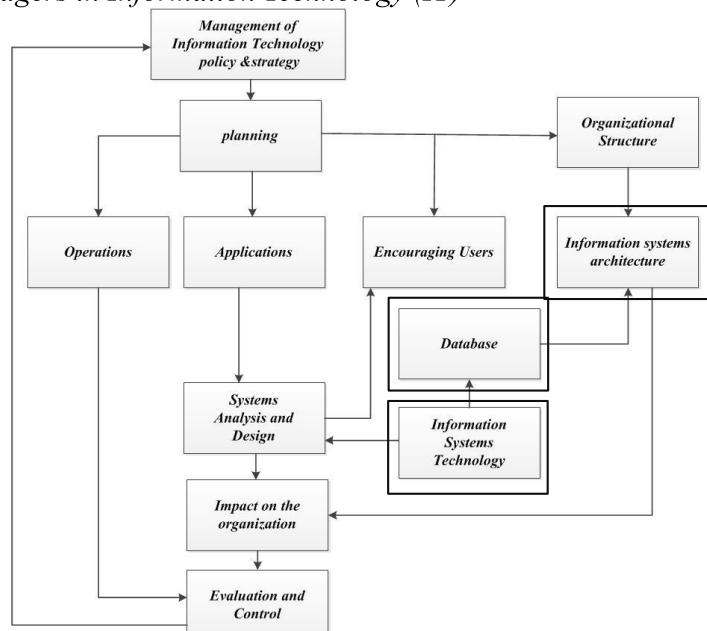
▪ Contents:

- *Information Technology* (9 sessions)
 - *Fundamentals*
 - *The components of a personal computer*
 - *Software*
 - *Managerial concerns*
 - *The Contribution of Higher-Level languages*
 - *The Web Browser and Internet standards*
 - *The operating system*
 - *Database management*
 - *File elements*
 - *Enter database management software*
 - *Database in systems design*
 - *Data Warehouses, Data Marts, and Data Centers*
 - *Enterprise Content Management*

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The role of managers in Information Technology (IT)

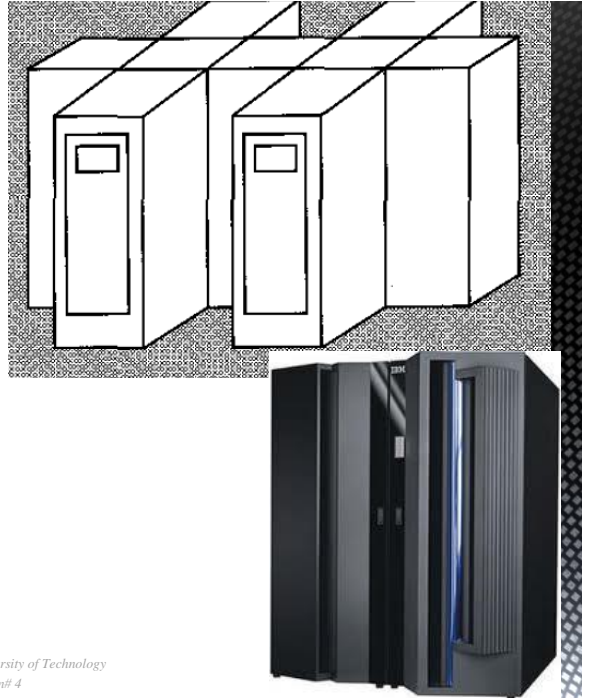


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Information Technology

- *The today's computers*
 - *The first computers developed were mainframes, which are large general-purpose machines.*
 - *Today this type of machine is likely to support a number of terminals and personal computers interacting with huge databases containing billions of characters of data.*
 - *Mainframe computers are used extensively to process transactions and maintain vital data for access by various users.*

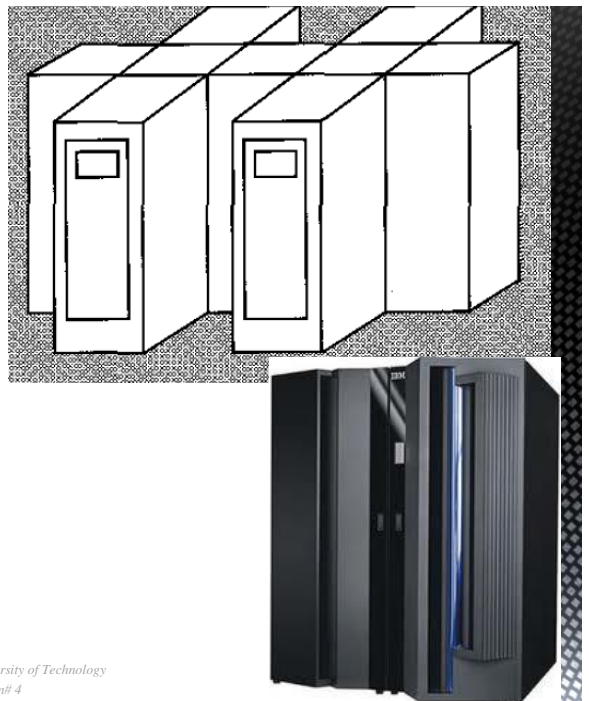
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Information Technology

- *The today's computers*
 - *Today many mainframe applications are called "legacy systems."*
 - *These systems represent a heavy investment; they process critical transactions, and they are difficult to change.*
 - *These mainframe systems are capable of processing a huge volume of transactions given very high speed data channels*

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Information Technology

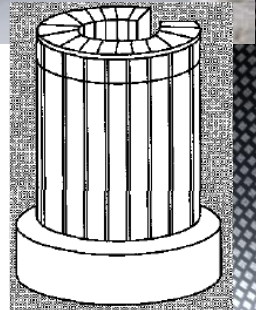
- *The today's computers*
 - *Organizations using mainframe computers generally process large amounts of data.*
 - *The computers may access databases with billions of characters of data and control networks of hundreds or thousands of terminals.*
 - *The computers need to be able to handle extensive telecommunications activities and input-output operations.*



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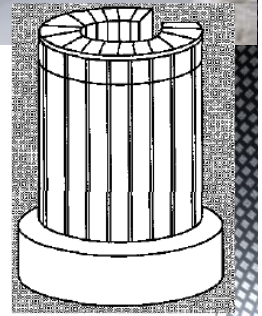
- *The today's computers*
 - *Scientists and engineers have computationally intensive problems to solve, often involving numbers with many digits of significance.*
 - *Examples include the*
 - *Simulation of airflow over an aircraft,*
 - *Weather forecasting simulations,*
 - *Analysis of geological data, and even*
 - *Predictions about the speed of a sailboat designed for the Americas Cup competition.*



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Information Technology

- *The today's computers*
 - *Supercomputers are among the fastest computers today, with speeds measured in hundreds of megaflops (a megaflop is the execution of 1 million floating-point instructions per second) to more than a gigaflop (1 billion floating-point instructions per second).*
 - *Machines have achieved teraflop speeds, executing over 1 trillion instructions per second.*



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- *The today's computers*
 - *Minicomputers evolved as manufacturers increased processing speeds and expanded word sizes to 32 bits.*
 - *Companies use this midrange computer for a variety of processing tasks, some of which are similar to what a mainframe did a decade ago.*
 - *Next came the PC or personal computer, which was first designed as an 8-bit computer.*
 - *Workstations use high-performance 32-bit computers for engineering and scientific work. The workstation features superior graphics and is often used for design tasks.*

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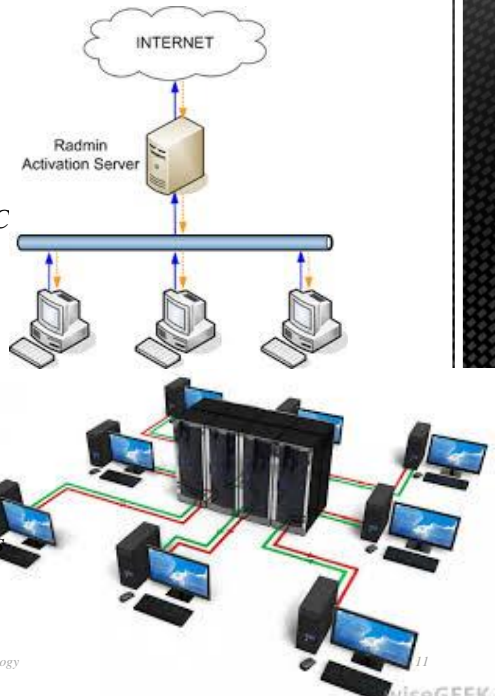
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Information Technology

- *The today's computers*
 - *In the client-server model of computing, a user's client PC makes requests of a server computer that has data and possibly programs on it*
 - *The server is responsible for the database and is likely to execute transactions to update and manage it.*
 - *One Compaq server containing four Pentium processors has been clocked at 600 transactions per second with standard database software compared to 200 transactions per second for some midrange computers.*



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- *The today's computers*
 - *The PDA or personal digital assistant began as super calculators able to store a user's calendar and phone book.*
 - *Today these devices often weigh less than a pound and some offer handwriting and voice recognition, fax and modem communications, and even a pager.*
 - *A sales representative might use a small PDA that has information on contracts. A longshoreman uses a PDA that has a bar-code reader and scanner to record the location of containers.*



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The role of managers in Information Technology (IT)

- *HW*
 - *Simon Marshall Associates*
 - *Study your reference book in page 195. The book talks about the case study of Simon Marshall Associates.*
 - *Try to answer the questions in the case study based on our described context in this session*

- *The Home work should be sent to FValilai@sharif.edu*

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