2 Lecture - CS302

Important Subjective

1. **What is a number system?**
   Answer: A number system is a set of symbols and rules used to represent and manipulate quantities.
2. **What is the decimal number system?**
   Answer: The decimal number system is a base-10 number system that uses ten symbols (0-9) to represent quantities.
3. **What is the binary number system?**
   Answer: The binary number system is a base-2 number system that uses two symbols (0 and 1) to represent quantities.
4. **What is the octal number system?**
   Answer: The octal number system is a base-8 number system that uses eight symbols (0-7) to represent quantities.
5. **What is the hexadecimal number system?**
   Answer: The hexadecimal number system is a base-16 number system that uses sixteen symbols (0-9 and A-F) to represent quantities.
6. **Why is understanding number systems important in computer science?**
   Answer: Understanding number systems is important in computer science because digital data is stored and processed using binary numbers.
7. **How can you convert a binary number to a decimal number?**
   Answer: To convert a binary number to a decimal number, you can multiply each digit of the binary number by its corresponding power of 2 and then sum the products.
8. **How can you convert a decimal number to a binary number?**
   Answer: To convert a decimal number to a binary number, you can repeatedly divide the decimal number by 2 and then record the remainders.
9. **What is the process of converting a decimal number to an octal number?**
   Answer: To convert a decimal number to an octal number, you can repeatedly divide the decimal number by 8 and then record the remainders.
10. **What is the process of converting a decimal number to a hexadecimal number?**
    Answer: To convert a decimal number to a hexadecimal number, you can repeatedly divide the decimal number by 16 and then record the remainders, substituting any remainders greater than 9 with letters A-F.