

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.