

1 Lecture - CS302

Important Subjective

1. **What is a number system?** Answer: A number system is a system of symbols and rules for representing quantities.
2. **What is the base or radix of a number system?** Answer: The base or radix of a number system is the number of symbols used in that system.
3. **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.
4. **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.
5. **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.
6. **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.
7. **What is the significance of number systems in computing?** Answer: Number systems are significant in computing as they form the basis of digital data storage and processing.
8. **What is the process of converting a decimal number to a binary number?** Answer: The process of converting a decimal number to a binary number involves repeatedly dividing the decimal number by 2 and recording the remainders until the quotient is zero.
9. **What is the process of converting a binary number to a decimal number?** Answer: The process of converting a binary number to a decimal number involves multiplying each digit of the binary number by the corresponding power of 2 and summing the products.
10. **What is the process of converting a hexadecimal number to a binary number?** Answer: The process of converting a hexadecimal number to a binary number involves converting each hexadecimal digit to its 4-bit binary equivalent.