

31 Lecture - CS101

Important Mcqs

1. **What is the probability of getting tails on a fair coin flip?**

- a) 0%
- b) 50%
- c) 100%
- d) None of the above

Answer: b) 50%

2. **What is the purpose of using a coin flip in computer science?**

- a) To generate random numbers
- b) To ensure fairness in games and simulations
- c) To study probability and statistics
- d) All of the above

Answer: d) All of the above

3. **What is the Monty Hall problem?**

- a) A problem involving flipping a coin multiple times
- b) A problem involving choosing between three doors and a prize
- c) A problem involving generating random numbers
- d) None of the above

Answer: b) A problem involving choosing between three doors and a prize

4. **How can a coin flip be used to generate random numbers?**

- a) By assigning heads to 0 and tails to 1
- b) By flipping the coin a number of times to generate a binary string
- c) By converting the binary string to a decimal number
- d) All of the above

Answer: d) All of the above

5. **What is the probability of getting three heads in a row on a fair coin flip?**

- a) $1/8$ or 12.5%
- b) $1/4$ or 25%
- c) $1/2$ or 50%
- d) 1 or 100%

Answer: a) $1/8$ or 12.5%

6. **How is a coin flip used in simulations?**

- a) To generate random numbers
- b) To ensure fairness
- c) To introduce random events
- d) None of the above

Answer: c) To introduce random events

7. **What is the probability of getting heads and tails on two consecutive coin flips?**

- a) 0%
- b) 25%
- c) 50%
- d) 75%

Answer: b) 25%

8. **How can a coin flip be used in cryptography?**

- a) To generate random numbers
- b) To ensure security
- c) To study probability and statistics
- d) None of the above

Answer: a) To generate random numbers

9. **How is the Monty Hall problem solved using coin flips?**

- a) By assigning heads to the winning door
- b) By flipping a coin to decide which door to choose
- c) By flipping a coin to demonstrate that switching doors increase the probability of winning
- d) None of the above

Answer: c) By flipping a coin to demonstrate that switching doors increases the probability of winning

10. **How can coin flips be used to study probability and statistics?**

- a) By flipping a coin multiple times and keeping track of the results
- b) By assigning heads to 1 and tails to 0
- c) By using a computer to simulate coin flips
- d) None of the above

Answer: a) By flipping a coin multiple times and keeping track of the results