

# 33 Lecture - CS302

## Important Mcqs

### 1. What is state assignment?

- a) Assigning names to states in a digital circuit
- b) Assigning binary codes to states in a digital circuit
- c) Assigning values to inputs in a digital circuit
- d) Assigning values to outputs in a digital circuit

Answer: b

### What is the goal of state assignment?

- a) To maximize the number of transitions between states
- b) To minimize the number of transitions between states
- c) To maximize the number of flip-flops required to implement the circuit
- d) To minimize the number of flip-flops required to implement the circuit

Answer: d

### Which method of state assignment is based on assigning a unique code to each state?

- a) One-hot encoding
- b) Binary encoding
- c) Gray coding
- d) None of the above

Answer: a

### Which method of state assignment is based on assigning a binary code to each state?

- a) One-hot encoding
- b) Binary encoding
- c) Gray coding
- d) None of the above

Answer: b

### Which method of state assignment is based on changing only one bit between adjacent states?

- a) One-hot encoding
- b) Binary encoding
- c) Gray coding
- d) None of the above

Answer: c

### Which method of state assignment is most suitable for circuits with a large number of states?

- a) One-hot encoding
- b) Binary encoding
- c) Gray coding
- d) None of the above

Answer: b

### Which method of state assignment results in the smallest number of flip-flops?

- a) One-hot encoding

- b) Binary encoding
- c) Gray coding
- d) None of the above

Answer: a

**Which method of state assignment is more hardware-efficient but less timing-efficient?**

- a) One-hot encoding
- b) Binary encoding
- c) Gray coding
- d) None of the above

Answer: a

**Which method of state assignment is more timing-efficient but less hardware-efficient?**

- a) One-hot encoding
- b) Binary encoding
- c) Gray coding
- d) None of the above

Answer: b

**Which method of state assignment is commonly used in synchronous sequential circuits?**

- a) One-hot encoding
- b) Binary encoding
- c) Gray coding
- d) None of the above

Answer: b