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