# 20 Lecture - CS402 

## Important Mcqs

1. What is a Finite Automaton with Output (FAO)?
a. A computational model that can recognize a language
b. A computational model that can produce output in response to inputs
c. A computational model that can perform mathematical computations

Answer: b
What is the purpose of an FAO?
a. To recognize or generate a language
b. To perform mathematical computations
c. To simulate logic circuits

Answer: a

What is the difference between an FA and an FAO?
a. An FA can produce output, while an FAO cannot
b. An FA cannot produce output, while an FAO can
c. An FA and an FAO are the same thing

Answer: b
Can an FAO recognize a language that cannot be recognized by an FA?
a. Yes
b. No
c. It depends on the specific language and FAO.

Answer: c
How does an FAO produce output?
a. By changing its state
b. By accepting or rejecting an input string
c. By emitting output symbols in response to input symbols

Answer: c
What is the role of an FAO's output in decoding error-correcting codes?
a. To correct errors in the input code
b. To verify the correctness of the input code
c. To provide information about the errors in the input code

Answer: c
What is the computational power of an FAO compared to a Turing machine?
a. More powerful
b. Less powerful
c. Equivalent

Answer: b
Can an FAO simulate a logic circuit?
a. Yes
b. No
c. It depends on the specific logic circuit and FAO.

Answer: a
What is the minimum number of states required for an FAO to recognize a regular language?
a. 1
b. 2
c. 3

Answer: b
Which of the following is not a typical application of an FAO?
a. Recognizing or generating a language
b. Decoding error-correcting codes
c. Solving mathematical equations

Answer: c

