

# 8 Lecture - CS402

## Important Mcqs

1. **What is the language accepted by a Turing machine that accepts all strings?**

- a) The empty string
- b) The null language
- c) The universal language
- d) All possible strings

**Solution: d) All possible strings**

**Which of the following is not a Turing machine that accepts none of the languages?**

- a) A machine with no accepting state
- b) A machine that rejects all strings
- c) A machine that never halts
- d) A machine with an infinite tape

**Solution: d) A machine with an infinite tape**

**What is the language accepted by a Turing machine that starts with the letter 'b'?**

- a) All strings starting with 'b'
- b) All strings ending with 'b'
- c) All strings containing 'b'
- d) None of the above

**Solution: a) All strings starting with 'b'**

**What is the language accepted by a Turing machine that does not end with the letter 'b'?**

- a) All strings not ending with 'b'
- b) All strings ending with 'b'
- c) All strings containing 'b'
- d) None of the above

**Solution: a) All strings not ending with 'b'**

**What is the language accepted by a Turing machine that contains the substring 'aa'?**

- a) All strings containing 'aa'
- b) All strings not containing 'aa'
- c) All strings starting with 'aa'
- d) None of the above

**Solution: a) All strings containing 'aa'**

**What is the language accepted by a Turing machine that contains either the substring 'aa' or 'bb'?**

- a) All strings containing 'aa' or 'bb'
- b) All strings not containing 'aa' or 'bb'
- c) All strings starting with 'aa' or 'bb'
- d) None of the above

**Solution: a) All strings containing 'aa' or 'bb'**

**Which of the following is a Turing machine that accepts none of the languages?**

- a) A machine that accepts all strings

- b) A machine that accepts only the empty string
- c) A machine that accepts only one specific string
- d) A machine that never halts

**Solution: a) A machine that accepts all strings**

**Which of the following is a Turing machine that accepts all strings?**

- a) A machine with no accepting state
- b) A machine that rejects all strings
- c) A machine that never halts
- d) None of the above

**Solution: d) None of the above**

**Which of the following is a Turing machine that starts with the letter 'a'?**

- a) A machine that starts with any letter
- b) A machine that starts with the letter 'b'
- c) A machine that starts with the letter 'a'
- d) None of the above

**Solution: d) None of the above**

**Which of the following is a Turing machine that does not contain the substring 'ab'?**

- a) A machine that contains only the substring 'ab'
- b) A machine that contains any substring except 'ab'
- c) A machine that contains no substrings
- d) None of the above

**Solution: b) A machine that contains any substring except 'ab'**