Seminar 6: Turing Machine

1. Given the following Turing Machine, show the step-by-step computation on the following input
   * *aaba* [2marks]

*Tape:q1, aaba🡪 q2, aba🡪 q2, aba 🡪 q2, aba 🡪 q2, aba- 🡪 q3, aba🡪 q4, abc🡪q4, abc🡪 q4, -abc🡪 q1, abc 🡪 q2, bc🡪q2, bc 🡪q3, bc 🡪 reject*

* + *aba* [2marks]

*q1, aba🡪 q2, ba🡪 q2, ba 🡪 q2, ba- 🡪 q3, ba 🡪q4, bc🡪q4, -bc🡪 q1, bc 🡪q5, c 🡪q5, c- 🡪 q6, c 🡪q7, - 🡪q1, -🡪 Acc*

Diagram

Description automatically generated

1. What is the language of the Turing machine in Question 1? [4 marks]

1. \*Design a Turing machine accepting the following language

. [Optional-will not count]