



INSTITUTE OF INFORMATION TECHNOLOGY
JAHANGIRNAGAR UNIVERSITY

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Submitted To

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Answer to the Question no Exercise 1

Write the language L as

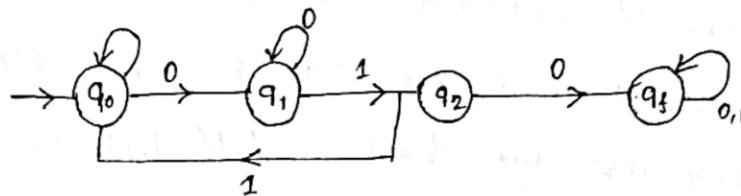
$$= \{ |w| \text{ w is of the form } n010y \text{ for some string } n \text{ and } y \text{ consisting of 0's and 1's only} \}$$

Another equipment description using Parameters n and y to the left of the vertical bar is:

$$= \{ n010y \mid n \text{ and } y \text{ are any string of 0's and 1's} \}$$

Example of string in the language include 010, 1101010, 10001011.

Any number of 0,1 can come before substring 010 and any number 01 can come after 010.



above diagram we start with q_0 , let's say we check whether string 1100101 is accepted or not.

Let's pass 1 DFA we are still in q_0 because for 1 there is a self loop on q_0 . So for the next 1 as well we will be in q_0 now when 0 will be passed we will go to another state q_1 when 0 passed again we are still on q_1 because there is a self loop for 0 on q_1 . So for next 0 we are still on q_1 now when 1 is passed we move to state q_2 . And from state q_2 if we pass 1 we will go back to q_0 state and if we pass 0 we will go to the final state q_f so we have 0 here so we go to the final state and now it doesn't matter whether then we pass 1 or 0 we will be final state only because we have a self loop on the final state. Hence string 1100101 is accepted.