DESIGN AND ANALYSIS OF ALGORITHMS

PROJECT REPORT

Subject Code: UE17CS252

Topic: Conversion of NFA to DFA

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**ABSTRACT**

We are using python to convert non deterministic finite automata to deterministic automata .We have used classes , tuples ,dictionaries and lists to convert NFA to DFA. We are printing total number of states, accepting states and all the transitions of DFA.

**PROCEDURE**

An NFA can have zero, one or more than one move from a given state on a given input symbol .An NFA can also have null moves. On the other hand DFA has one and only move from a given state on a given input symbol.

Initialize all the lists and variables required. The input for NFA is taken from the input files.

We are storing all the NFA transitions in transition\_function. We are creating NFA and DFA transition dictionaries.

We are taking a tuple of state and input symbol as key in dictionaries and value will be all the reachable state from the corresponding states in key.

Initialize a list ‘q’ which contains all the DFA states.

We should check if the accepting state of NFA is present in ‘q’. The final states of DFA is given by index of the tuples which contain atleast one final state of NFA.

And the final sorted transitions of DFA along with final states will be displayed.

TEST RESULTS

