Foundation of Computer Science (CS60001)
Tutorial-06

September 10, 2010

1. Which of the following problems are decidable and which are not decidable. Explain your answer.

    (a) Given a Turing machine M, a state q and a string w, whether M ever reaches state q when started with input w from its initial state.

    (b) Given a TM M, whether M ever writes a non blank symbol when started on the empty tape.

    (c) Given a TM M and a string w, whether M moves its head to the left when started with input w.

2. Prove that finite machine with 2 push down store is same powerful as turing machine

3. Show that the Post Correspondence Problem is decidable over the unary alphabet $\Sigma = \{1\}$.