Assignment3-Answer

(In this assignment, TM stands for Turing Machine)

True or False:

1. [1 pts] Finite automata can be regarded as a simplified version of TM. √
2. [1 pts] TM accepts only one language. √
3. [1 pts] For any given language L, a TM can only accept or reject it. ×
4. [1 pts] The language of a TM is not related to property of that TM. ×
5. [1 pts] A TM is called a decider if it can accept all input. ×
6. [1 pts] Every Multi-tape TM has an equivalent single-tape TM. √

Short Answers:

7. [2 pts] According to Church-Turing thesis, what is the relationship between “A problem is computable” and “The problem is Turing-decidable”?

   IFF(or equivalent)

8. [2 pts]Write down three possible outcomes of TM:

   Accept, Reject, Not halt