Tutorial 2

Instead of asking, *'Can machines think?'*, Alan Turing said we should ask, *'Can machines pass a behavior test for intelligence?'*. Turing predicted that by the year 2000, a computer could be programmed to have a conversation with a human interrogator for five minutes and would have a 30% chance of deceiving the interrogator that it was a human. (Negnevitsky, 2002).

1. Explain Turing Test.

2. Criticize Turing's criteria for judging a computer's intelligence.

3. Suggest how could this test be used (or modified) to assess other kind of artificial intelligence besides a chatbot. Provide an example to elaborate your answer.

4. The Loebner Prize is an annual competition in artificial intelligence that awards those computer programs considered by the judges to be the most human-like, using format of a standard Turing Test. The conversation scope between the programs and the judges has been unrestricted since 1995, and the duration of the conversation has been increased from 5 minutes to 25 minutes since 2010 (http://www.loebner.net/).

   (i) Discuss **TWO (2)** reasons why Turing Test is considered **not effective enough** in assessing machine intelligence.

   (ii) Discuss **TWO (2)** challenges to build a computer program that can win the Grand Loebner Prize, in which judges totally cannot distinguish it from a real human.

5. The Chinese room argument by John Searle is one of the best known and widely credited criticism of Turing Test. Briefly explain John Searle's Chinese room concept.

6. Try to chat with the following chatbots within a few minutes. Then discuss what are the characteristics / behaviors of a chatbot should have in order to deceive any human.
   Mitsuku, the 5-time Loebner Prize winner - https://www.pandorabots.com/mitsuku/
   Eliza, the first chatbot - https://web.njit.edu/~ronkowit/eliza.html (not the original Eliza website)