K21-4568 AI ASS#1 Dated: _____

QUESTION #1:

The Turing Test is a test of machine's ability to exhibit intelligent behavior that is indistinguishable from that of a human.

One of the objections in his paper is "systems reply" which argues that the test only proves the intelligence of the system as a whole rather than the machine itself i.e: the intelligence of the machine is also based on its developer's mind.

Turing refuted this objection replying that the whole system can still be considered intelligent and the machine's ability to generate such responses is enough evidence regardless of the distribution of intelligence in the system.

New objections involve the consideration that the turing test is too narrow in the definition of intelligence as there are more aspects such as creativity not captured by the test.

Although, even after the significant advancements in technology, any machine is still yet to pass the test.

QUESTION #2:

1) Yes, Farpheus is an example.
3) Yes, Jack is an example.
2) Yes, Tesla cars
6) Yes, ROSS intelligence.
7) Yes, Google Translate.

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QUESTION #3:

Agent => Sudoku Solver Single agent
Deterministic => Yes
Episodic => No
Static => Yes
Continuous => No

A model based or goal based agent is best for this domain that use search algorithms to find valid sudoku boards and reach the goal.

QUESTION #4:

1) Playing soccer
   Performance Measure => winning the game, succesfull passes
   Environment => soccer field
   Actuators => Mechanical parts to run, kick, jump
   Sensors => camera, auditory, tactile sensus.
2) Exploring subsurface of Arabian sea
   Performance Measure => mapping seaflor, volcanoes, canyons
   Environment => Arabian sea
   Actuators => Remotely operated vehicle (ROV), camera, lights
   Sensors => Camera, lights, sonar, samplers
3) Playing a Tennis match
   PM => winning, serves, volleys, groundstrokes, returns
   E => Tennis court
   A => Running, walking, jumping, swinging
   S => camera, auditory, tactile sensors

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4) Performing a high jump
PM => clearing the bar, height
E => jump pit
A => running, walking, jumping
S => camera, tactile sensors.

5) Bidding an item at an auction
PM => winning the item, avoid overbidding
E => Auction house
A => submit a bid
S => vision camera, tactile sensors

QUESTION #5:

1) True, because one can't be rational without knowing completely.
2) True, since reflex agents just map responses to conditions they cant be rational.
3) No, there is not a task environment where every agent is rational.
4) No, the input to an agent program involves the percept and datastructures while an agent function only recieves the current percept of the environment.
5) No, not every agent implementation is possible because we are still limited by our hardware and programming languages.