1.  (2 points) Choose six definitions of AI found in popular literature. For each definition, explain whether AI is being described as THINKING HUMANLY, THINKING RATIONALLY, ACTING HUMANLY or ACTING RATIONALLY.

1. SKYNET from terminator was thinking rationally it assumed in its code that stated defend itself from all threats and it look at the data and then it believed that humanity is a threat.
2. The GETH from mass effect they were thinking rationally for the most part of the games they were trying to understand humanity using logic and reasoning.
3. HAL from 2001 space odyssey it was acting and thinking rationally and doing anything to make sure that the mission was done at all costs not matter the moral ambiguity.
4. Mega Man X was built to both think and act like a human making it impossible to tell X from a human even thought he was an AI through and through so it is both thinking humanly and acting humanly.
5. The Iron Giant was an AI Weapon designed to destroy humans from mars but it gained a free will and went against this orders and befriended them instead thus acting humanly.
6. The matrix trilogy’s AI started out acting rationally but then when to acting humanly. The humans then betrayed them and forced the AI to enslave the humans it thinks human thought of revenge for mistreatment but it acts in a rational way that makes this Movie AI part of all of the AI classification

2.  (2 points) Detail the environments for a rational agent for the following tasks. State any assumptions in your reasoning:

* Solitaire: In this game I assume AI must know the rules of the game. The AI will have to look at what is shown in front of it the entire card and recorded that information and then and based on that information it picks the best move based on its game knowledge.
* Tic-Tac-Toe: In this game I assume AI must know the rules of the game. The AI will look at the board and look at what symbols are there (O or X ) then it will look at all of the empty spaces that it can play in then it will pick where to place its mark. If it goes first always in the middle.
* Handwriting Analysis: I assume that it know the handwriting of everyone in a given city or town. It will read the entire handwriting sample and then one by one eliminate ones that do not match in it large hand writing elements.
* Robotic Ping Pong Player: I assume that it can see what is going on and it has the speed of a regular human and also it knows the rules of Ping Pong. The AI will focuses both on the ball and on the field to and when the ball is going towards and there is no foul then it will calculate where to hit the ball to try to score.
* Automatic Pilot: I assume it knows how fly and stay at a specific altitude and it has sensors to detect where it is a how it is doing. Using this when the AI is turned on it will try to keep the altitude avoid other planes.
* Medical Diagnostic System: I assume the AI knows all known illnesses and how to spot the illness. The AI will scan a patient and then go over its huge data base to try to get a possible match to then tell doctor what the illness is.

3.  (2 points) Some AI researchers have argued that the goal of AI should be to build machines that help people in their intellectual tasks rather than to do these tasks. Loosely speaking, “helping” is sometimes called weak AI, and “doing” is sometimes called strong AI. What is your opinion and why?

I think that there should be a mix of both strong and weak AI. The weak AI could be used for advice and a second pair of eyes when it comes to many major and minor tasks. I also think that the strong AI can help plan out better safety plans and make dangerous job much more safe.

4.  (4 points) Design a rational agent for a robot that searches through a room until a wall outlet is discovered.

The room is rectangular, and is assumed to contain no obstacles. An infrared sensor attached to the outlet indicates when the robot has reached this location. Once the outlet is found, the agent should plug itself into the wall (and stop searching for an outlet!).

A photoelectric sensor on the front of the robot carriage indicates when the agent is facing a wall. The simple motor attached to the unit can move forward, or turn either 90 degrees to the left or right.

* + Completely detail the environment for the problem above.
  + Construct a mapping from percept to action (design the agent function).

|  |  |  |
| --- | --- | --- |
| Wall  B1  Wall | Wall  B2 | Wall  B3 |
| B4  Plug wall | B5  Robot starst here | B6  Wall |
| B7  Wall | B8  Wall | B9  Wall |

The robot will look if any this is in front of it then to the left and right to try to find and empty space to move then it will turn/move to the space that it has not been to before.

Then to will try to since if the plug is in the area that it is in if not it will repeat the above step

If it senses the plug it will enter recharge.