

Tutorial 1

- For most of the questions in Tutorial 1, there are no correct or incorrect answers, provided the answers are justified appropriately
- Discuss means outline the issues that are relevant to the statement or question, not just a single word answer

Question 1

- List three tasks at which humans are better than machines:
 - Painting, Music composition, Literature, Theorem proving, Conversation, Writing books, Cooking, Walking, Learning, Natural Language Processing, Folding Clothes, Creativity, Inventing ...
- List three tasks at which computers are better than human beings:
 - Calculations, Doing well understood repeated tasks such as, plotting data etc., Storing information (memory), Multi-tasking, Chess, Logic ...

Question 2

- List all of the things that exist in this world:
 - Desks, chairs, windows, walls, whiteboard, blackboard, chalk, ceilings, people, clothes, laptops, pens, paper, textbooks, lights, light switch, blinds, air conditioning, air ...
- Find a thing that can't be described well using natural language:
 - Exact relative spatial locations of objects, Emotions, Facial expressions, Complex calculations, Music ...

Question 2

- Choose a particular task, such as writing on the whiteboard, and write down all the things in this world (descriptive) that are relevant to this task:
 - Objects in the world
 - Physical attributes of agent
 - Perceptions of the agent
 - Knowledge of the agent
 - Task details
 - Correct level of abstraction for the task
 - What information does the agent need that we take for granted?
 - What information does the agent not need to pay attention to?

Question 2

- What exists in a world is a property of / depends on the observer:
 - A theoretical “absolute reality”, the way things are, everything that exists in the world
 - An observer is only interested in the things that they can experience, interact with, and reason about
 - Anything else that might exist in the world isn’t relevant to the observer
- What exists in a world is a property of / depends on the task as well as of the world:
 - The task can focus the attention of the agent
 - Things that help the agent to perform the task
 - Things that hinder the agent from performing the task

Question 3

- Do we need to copy human beings to make intelligent systems?
 - No, but it is important to understand how human beings think
 - Copy other examples from biology
 - Work out a better way to perform a task
- Do machines need to understand what they are doing in order to do intelligent tasks?
 - To do intelligent tasks machines don't need to understand
 - No consensus whether they need to understand what they are doing to be considered intelligent
- What disciplines/application areas could AI could be applied in?
 - Computer Vision, Speech Processing, Medical Diagnosis, Drug Discovery ...

Question 4

- Characterise the following definitions of AI according to these dimensions:
 - Not all of these distinctions are well defined in the definitions of AI provided
 - Understanding of strong and weak AI
 - Difference between scientific and engineering solutions