COS30019 - Introduction to Artificial Intelligence
Tutorial Problems Week 1

Task 1:

Explain the relations between different paradigms of AI. Would the solutions in one paradigm be applicable to solve problems in another?

Task 2:

Research a number of applications with potential use of AI. E.g., driverless car, SIRI, expert systems, web search engine, decision support systems, etc.

A. What AI paradigm would be most suitable for such applications?
B. Describe your own ideas on how the problem can/should be solved. What knowledge/skills do you lack if you are required to build such applications?

Task 3:

Various subfields of AI have held contests by defining a standard task and inviting researchers to do their best. Examples include the DARPA Grand Challenge for robotic cars, the International Planning Competition, the Robocup robotic soccer league, the TREC information retrieval event, and contests in machine translation, speech recognition, etc. Investigate at least three of these contests and describe the progress made over the years. To what degree have the contests advanced the state of the art in AI? To what degree do they hurt the field by drawing energy away from new idea?

Programming Task – Text file parsing:

Throughout the programming aspect of the unit, numerous files will be provided, each requiring a different method of interpretation. As an introduction to the unit, you will be required to write a program that can parse a simple text file of the following format:

Melbourne Sydney 878 713
Melbourne Brisbane -1 1374
Brisbane Newcastle 780 618

Where each segment of information is delimited by a single space. The columns represent the following information:

1. The city to travel from
2. The city to travel to
3. The actual distance between the cities (-1 indicates direct driving between the cities is not possible)
4. The straight line distance to the destination

Each route is separated by a new line; all lines are completely independent of each other and should be read separately. A route should be expressed as a class.
Finally, the following output for each route must be produced in the console:
"Travel from city A to city B with a straight line distance of S and an actual distance of D."
And in the case of the actual distance being -1:
"Cannot drive from A to B, however there is a straight line distance of S."
Where each variable (*A*, *B*, *S*, *D*) is replaced with the relevant information.