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Experiment No : 6

Aim: Knowledge representation and creating a knowledge base for Wumpus world

Theory:

- Humans are best at understanding, reasoning and interpreting knowledge.
- Human knows things, which is knowledge and as per their knowledge they perform various actions in the real world.
- But how machines do all these things comes under knowledge representation and reasoning.
- Hence we can describe knowledge representation as following:

1) Knowledge representation and Reasoning (KR, KRR) is the part of Artificial intelligence which concerned with AI agents thinking and how thinking contributes to intelligent behaviour of agents.
2) It is responsible for representing info about the real world so that a computer can understand and can utilize this knowledge to solve the complex real world problems such as diagnosis a medical condition or communicating with humans in natural language.
3) It is also a way which describes how we can represent knowledge in AI. Knowledge representation is not just storing data into some database, but it also enables intelligent

machine to learn from that knowledge and experiences so that it can behave intelligently like a human.

- The Wumpus World Environment

⇒ The Wumpus world's agent is an example of a knowledge-based agent that represents knowledge, representation, reasoning and planning.

- PEAS properties of Wumpus World problem:

1) Performance Measure

⇒ -200 if the player is killed.
+100 for grabbing the gold and coming back to the starting position

2) Environment

⇒ Empty rooms
Rooms with Wumpus

3) Sensors

⇒ Camera to get the view
odour sensor to smell the stench

4) Actuators

⇒ Move forward
Turn right
Turn Left

- Conclusion: In this experiment, we learnt about the Wumpus world.