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**TY BTECH DIV B, Batch : C22**

AIM: Select a Problem Statement relative to AI

1. Identify the problem
2. PEAS description
3. Problem formulation

PART A)

Write the problem faced in each one of them

1. **AGENT**: Chess playing with a clock
   1. **Performance Measure:**
      1. Win:Lose ratio
      2. Speed
      3. Total game time
   2. **Environment:**
      1. Chessboard
      2. Clock
   3. **Environment Type:**
      1. Fully observable
      2. Discrete
   4. **Actuator:**
      1. Pausing of the clock
      2. Movement of chess pieces
   5. **Sensors:**
      1. Movement arm
      2. Servo Motors
      3. Location of chess pieces using reed switches.
   6. **Problem**
2. **AGENT**: Driving a car
   1. **Performance Measure:**
      1. Speed
      2. Time Taken
      3. Comfort
      4. Fuel Economy
   2. **Environment:**
      1. Car
      2. Road
      3. Traffic
      4. Signposts
      5. Potholes
   3. **Environment Type:**
      1. Partially Observable
   4. **Actuator:**
      1. Steering Wheel
      2. Brake
      3. Accelerator
      4. Mirror
      5. Gearstick
   5. **Sensors:**
      1. GPS
      2. Odometer
      3. Speedometer
      4. Fuel tank capacity meter
   6. **Problem**
3. **AGENT**: Interactive English tutor
   1. **Performance Measure:**
      1. Language Improvement
      2. Increase in test score
      3. Number of errors made per paragraph
   2. **Environment:**
      1. Classroom
      2. Table
      3. Chair
      4. Students
      5. Whiteboard
      6. Books
   3. **Environment Type:**
      1. Deterministic
   4. **Actuator:**
      1. Writing on whiteboard
      2. Opening and reading the books
      3. Checking of test papers
   5. **Sensors:**
      1. Eyes
      2. Ears
      3. Books
      4. Test Papers
   6. **Problem**
4. **AGENT**: Part picking robot
   1. **Performance Measure:**
      1. % Efficiency of the robot
   2. **Environment:**
      1. Parts
      2. Conveyer belt
   3. **Environment Type:**
      1. Collaborative
   4. **Actuator:**
      1. Picking up the parts
      2. Sorting the parts
   5. **Sensors:**
      1. Camera
      2. Robot Arm
      3. Distance Sensor
      4. Servo motors
   6. **Problem**
5. **AGENT**: Satellite Image Analysis System
   1. **Performance Measure:**
      1. % Correct Analysis
      2. Time taken
   2. **Environment:**
      1. Camera
   3. **Environment Type:**
      1. Dynamic
   4. **Actuator:**
      1. Capturing of Images
      2. Movement of the satellite
   5. **Sensors:**
      1. Camera
      2. Color Sensor
   6. **Problem**
6. **AGENT**: Medical Diagnosis System
   1. **Performance Measure:**
      1. % of correct diagnosis
      2. Time taken
      3. Systems correctly found
      4. Number of lawsuits
      5. Cost
   2. **Environment:**
      1. Patient
      2. Hospital
   3. **Environment Type:**
      1. Deterministic
   4. **Actuator:**
      1. Asking questions
      2. Recommending further tests
      3. Printing reports
      4. Dispensing medicines
   5. **Sensors:**
      1. Camera
      2. Microphone
      3. Speaker
      4. Printer
   6. **Problem**
7. **AGENT**: Refinery Controller
   1. **Performance Measure:**
      1. % Efficiency
      2. Speed
   2. **Environment:**
      1. Refinery workers
      2. Machines
   3. **Environment Type:**
      1. Collaborative
   4. **Actuator:**
      1. Turn on/off systems
      2. Adjust temperatures
      3. Adjust pressures
   5. **Sensors:**
      1. Temperature sensor
      2. Pressure sensor
      3. Proximity sensor
   6. **Problem**
8. **AGENT**: Pokey playing
   1. **Performance Measure:**
      1. Rounds won
      2. Number of correct moves
   2. **Environment:**
      1. Cards
      2. Humans
   3. **Environment Type:**
      1. Discrete
   4. **Actuator:**
      1. Dealing the cards
      2. Playing the cards
   5. **Sensors:**
      1. Camera
      2. Color sensor
      3. Servo motor
      4. Movement Arm
   6. **Problem**
9. **AGENT**: Chatbot
   1. **Performance Measure:**
      1. Time taken
      2. Grammatical accuracy
   2. **Environment:**
      1. Chatbot
      2. Human
   3. **Environment Type:**
      1. Continuous
   4. **Actuator:**
      1. Displaying the questions
      2. Taking responses
   5. **Sensors:**
      1. Keyboard
      2. Screen
   6. **Problem**
10. **AGENT**: Soccer playing robot
    1. **Performance Measure:**
       1. Number of goals scored
       2. Number of goals saved
       3. Number of penalties
       4. Number of games won
    2. **Environment:**
       1. Soccer field
       2. Goal posts
       3. Goat net
       4. Humans (Other players)
    3. **Environment Type:**
       1. Continuous
    4. **Actuator:**
       1. Movement of the ball
    5. **Sensors:**
       1. Servo motors
       2. Proximity sensors
    6. **Problem**
11. **AGENT**: Recommender system
    1. **Performance Measure:**
       1. % Efficiency
    2. **Environment:**
       1. Dataset
       2. Input variables
    3. **Environment Type:**
       1. **Continuous**
    4. **Actuator:**
       1. Creating the algorithm
       2. Using the algorithm
    5. **Sensors:**
       1. Keyboard
       2. Screen
    6. **Problem**