AI Assignment 6

We call a agent an rational agent when for each possible percept sequence, it should select an action that is expected to should select an action that is expected to maximize its performance measure, given the evidence provided by the percept sequence and the agent’s built-in knowledge

Rationality of an agent depends on the following four factors −

* The **performance measures**, which determine the degree of success.
* Agent’s **Percept Sequence** till now.
* The agent’s **prior knowledge about the environment**.
* The **actions** that the agent can carry out.

A rational agent always performs right action, where the right action means the action that causes the agent to be most successful in the given percept sequence. The problem the agent solves is characterized by Performance Measure, Environment, Actuators, and Sensors (PEAS).

* Example:-

Percepts:Location and status,

e.g.,[A,Dirty]

• Actions:Left, Right, Suck, , Right, Suck, NoOperation

* function Vacuum-Agent

([location,status]) returns an action

• if status = Dirty then return Suck

• else if location = A then return Right

• else if location = B then return Left

Hence whether agent is rational or not depends on Depends on performance measure, environment properties.