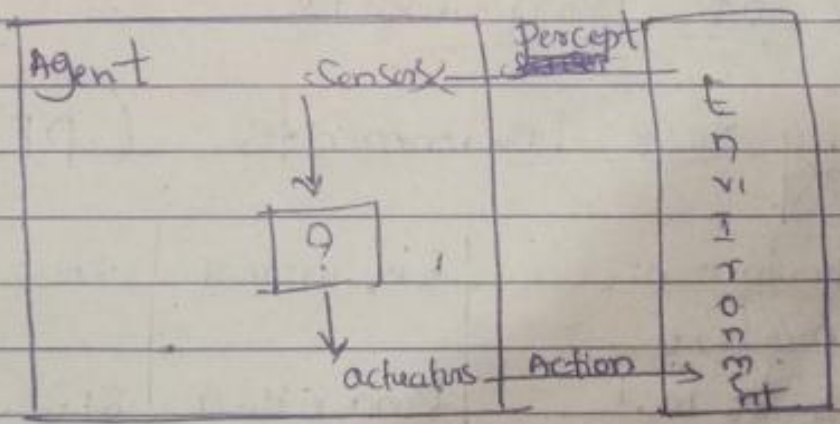
Weak AI	Strong AI
* AI designed for the specific task or purpose * Aims to Replicate or stimulate human ~~level~~ task. * limited & flexiblile for specific task * focuses on specific task	* AI that acts like human and possesses human like cognitive abilities. * Aims to replicate human level intelligence * adapting to different situation * focuses on various Domains

Intelligent Agents:-

An agent is anything that can be viewed as perceiving its environment through sensors and acting upon that environment through actuators



Rationality :- It refers to the ability of an agent to make decision and take action that maximize the performance.

* Performance measure
* agents prior knowledge of environment
* action that agent can perform
* The agent's percept sequence to date.

Omnicent :- An omnicent agent knows the actual outcome of the action

omnicent agents are impossible in reality

Learning :- rational agent doesn't only collect information also it should be learnt as much as possible from what it perceives

autonomy :- It should learn what it can to compensate for partial or incorrect prior knowledge
work autonomously and learn autonomously
also take action autonomously

The Nature of Environments

Specifying task Environments (PEAS)

	Performance measure	Environment	actuators	Sensors
Taxi driver	safe, fast, legal, Comfortable	Road, other traffic customers	Steering, accelerator, brake, signal, horn	Cameras, Sonar, GPS, odometer, accelerometer

Properties of task Environment

1) observable or partialy observable → has some restrict
   ↓
   agent directly access the complete Environment

2) Deterministic or Stochastic :-
   ↓
   Next state is entirely determined by the Current state

3] Episodic or sequential :- agent experience is divided into episodes and outcome of the each episode is Independent to each other

4] Static or Dynamic :- Static environment remains Unchanged while the agent is deliberating or selecting action.

5] Discrete or continuous :- Discrete environment has limited number of distinct states and actions, allowing explicit representation

6] Single agent or Multi agent :- Single agent is used in environment

7] known or Unknown :- In known agent has complete knowledge of environment Properties transition dynamic and rewards

OKSDDSE ODESDSK

The Structure of agents

Agent program is Function the mapping from Percept to action

agent = architecture + program

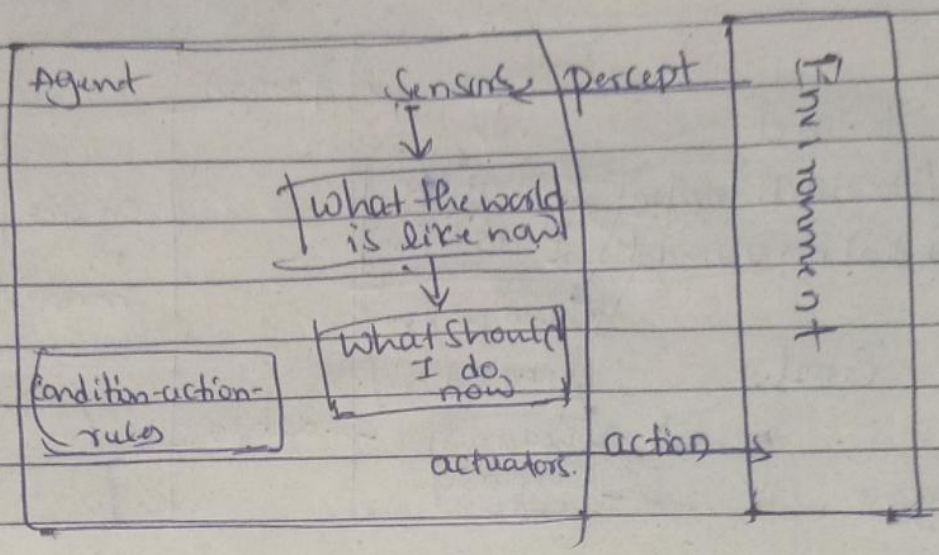
Agent = architecture + program (Remember for while)

Agent :- Agent is an Entity or system that perceives the Environment through sensors and acts upon it through effectors to achieve the goal or objective.

Agent function :- Mapping on the percept Sequence to actions taken by an agent. It determine the Current percept based on behaviour and take action in appropriate way.

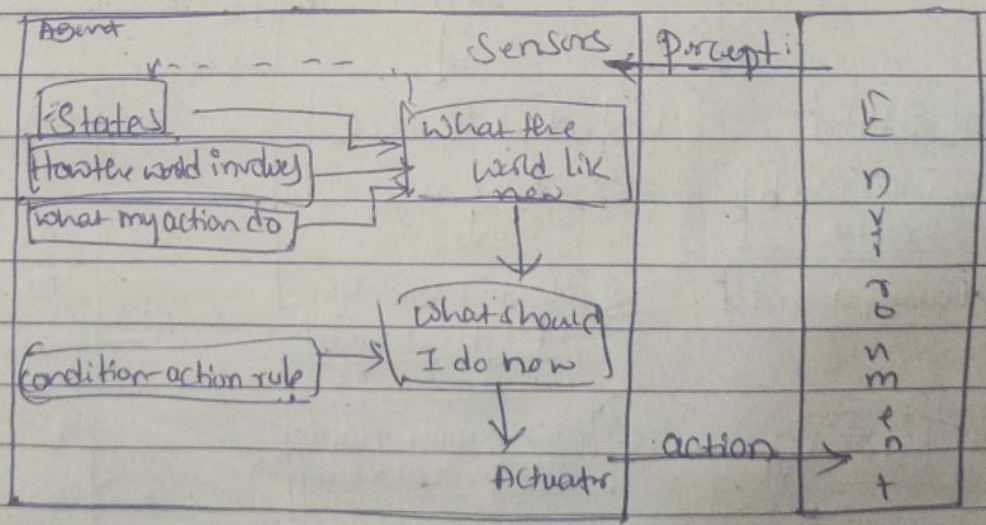
Agent program :- Agent Program is a Concrete implementation of code that realizes agent function. Specifically runs in Computer hardware or software then takes input from environment and acts and action should be took wisely.

Simple reflex agent



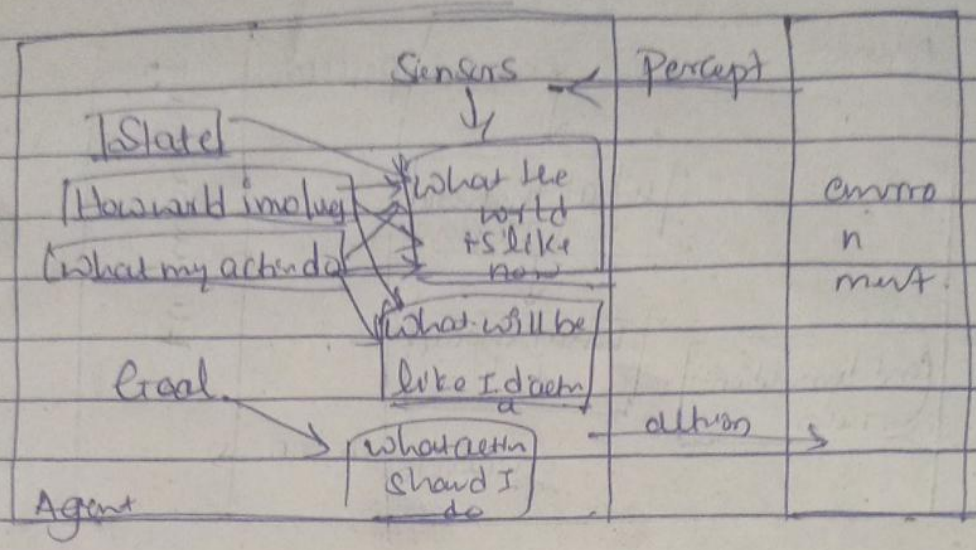
* Acts only on base of current percept
* Agent acts based on condition-action-rule.
* If condition is true - take action.
* Observable

Model Based reflex agent.



→ Partialy observable.
→ agent has to keep tracks of internal ~~good~~ state

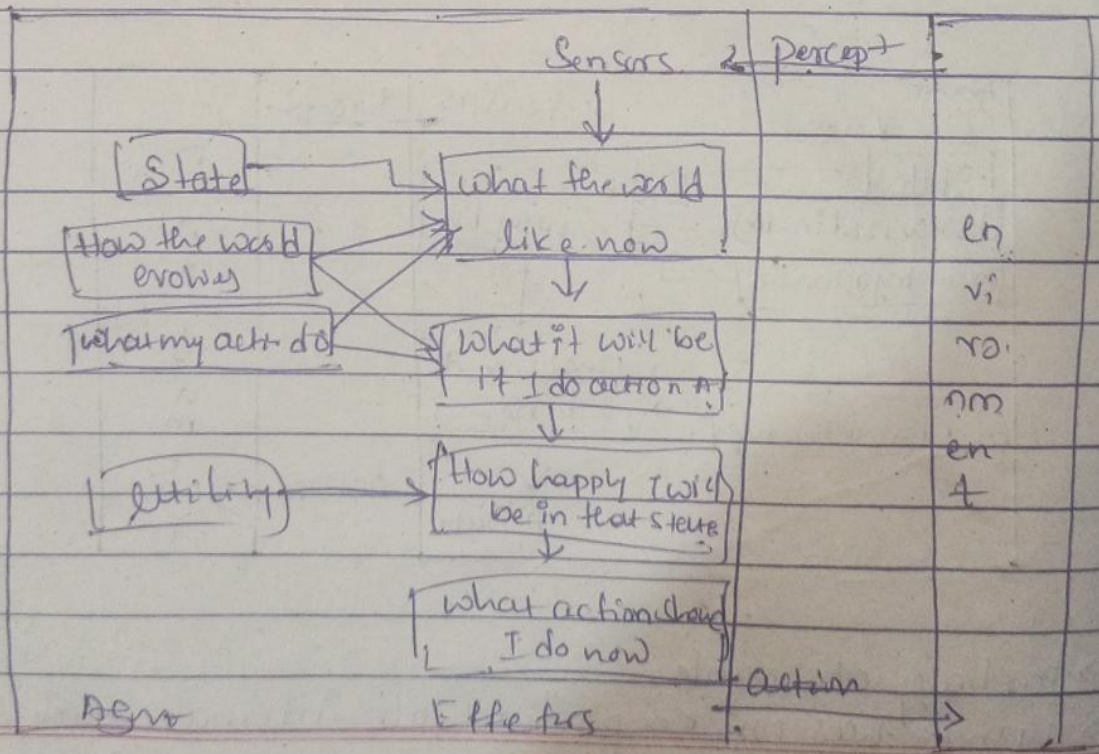
Goal - Based Agents



* agent takes decision based on how far they are currently from their goal

* Every action is intended to reduce distance from goal

Utility Based Agents



Learning agent