AI

BCA DS & AI

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Assignment-01

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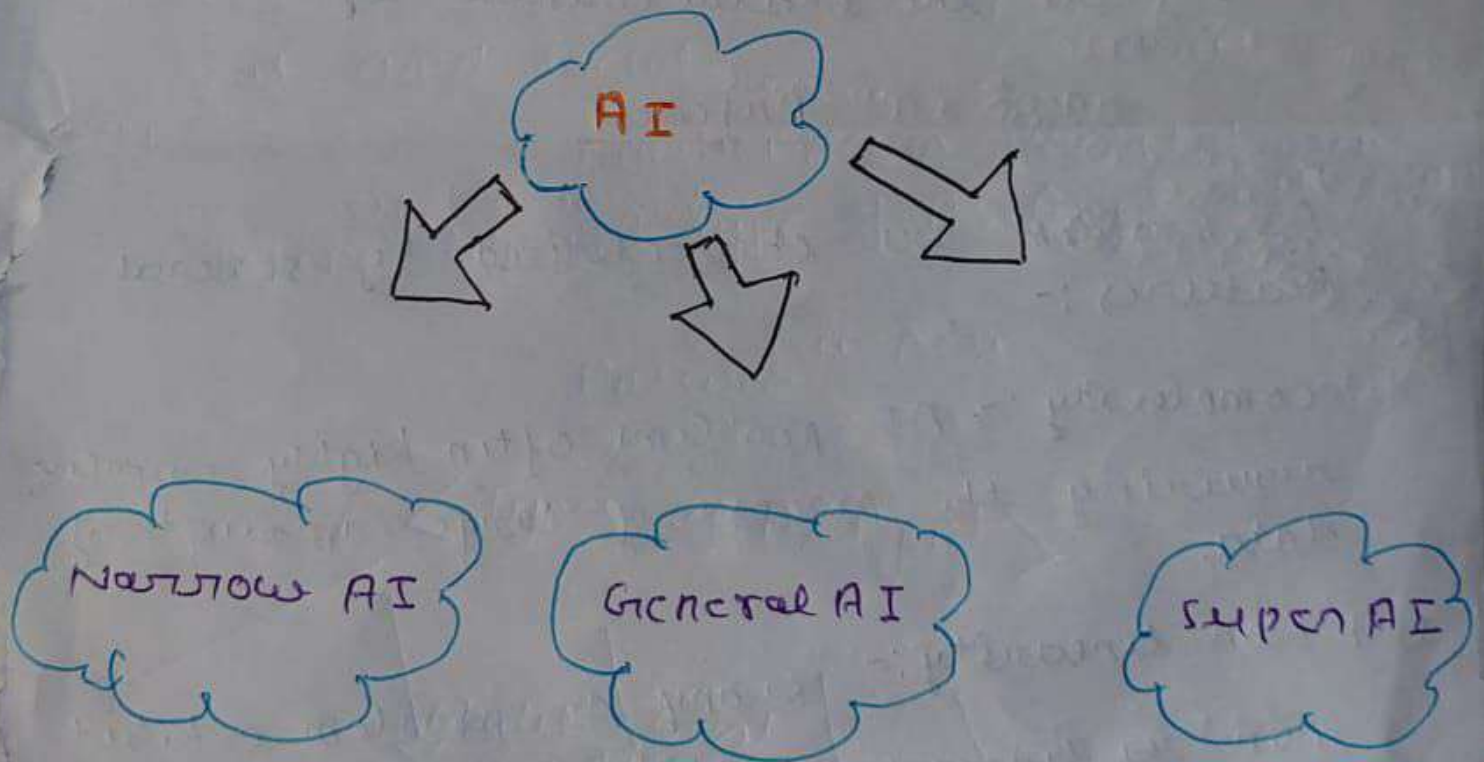**S.T. NAME:** Mrs. Rachna Sinha

S.T. SIGN

Define AI and its Type, with real world example?

Answer

* AI:

AI can also be defined as the development of computer system that are capable of performing task that require human intelligence, such as decision making, Object detection, solving complex problems and so on.

* Types of AI:

AI

Narrow AI   General AI   Super AI

(i) Narrow AI :-

Narrow AI machine can perform only one task, It designed for only specific tasks. Example :- Voice assistants: Siri, Alexa etc.

(ii) General AI :-
Also know as strong AI.
AGI is the stage in the evalution of AI where in machine will possess the ability to think and make decisons jeust like human. Example :- AI Robots.

(iii) Super AI :-
ASI is the stage of AI when the capabilites of computer's surpasses human beings. This is not present in real wcered.

Question - 02

what are the characteristic of An AI problem?

Answer

AI problem are charecterized by several Features :-

(i) complexity :- AI problem often highly complex, requiring the process of large amount of data.

(ii) Non. linearity :-
Many AI problem exhibit non- linear relation ships, Meany that small change in the input can lead significant change in output.

(iii) context-depends :-
AI problem often requi the ability to understand context and make decision Based on the specific situation or

enviroment

(4.) creativity:- some AI problem requir the ability to Under and generate novel Idea and solution.

(5.) Learing and Adaption :- AI problems often requir the ability to ~~run~~ learn and adapt on time based new data and feed back.

(6.) Multi-disiplicry :- AI problem often require experties from multipul field.

(7.) Ethical considerations:- AI problem raise ethical and social concern realated privi cy, scurity, bias & fairness.

Question -03

Define different type of AI Agent with example.

Answer
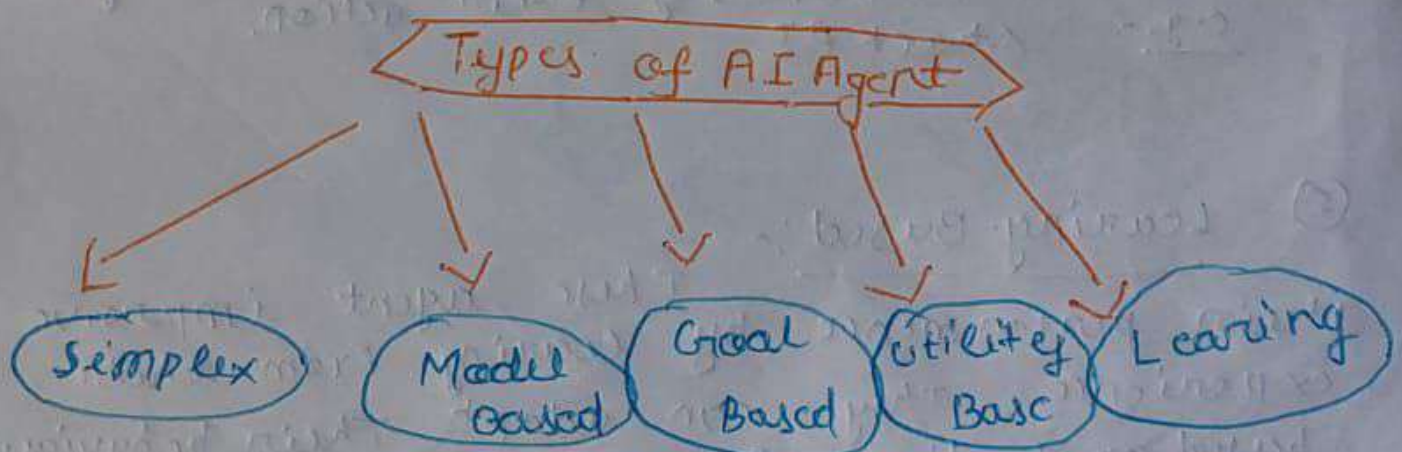
(1.) simplex AI Agent :- These agents take decision supported the present and ignore the remain der of the percept history.

e.g.⇒ Automatic door

② Model Based:-

A Model Based AI Agent takes percepts from present and as well as take Q analiz percepts from past and make decision also maintain enternal Model.

e.g.→ Automatic car

③ Goal - Based:-

A Goal- Based Agents have specific goal or set of goals they aim to achive. They use internal Knowledge of resoning to determine the action their goal.

e.g.- AI drone.

④ Utility Based :-

These agent aim to maximize their expected utility by considering the potential consiquences of their action.

e.g.- Stock AI

⑤ Learing- Based :-

These agent improove their performance by learing from their experience, They can adopt Their behaviour based on feedback & pastoutcome.

e.g.→ chat gPT, siri, google assistant.

Question:- 04

Diffrence btw deterministic & Non-deterministic environment?

Answer

In deterministic environment any action has single garenteed effect and no failure and uncertainity, On the other handin non-determic The task performed Twice may produce differnt result or faild completly.

e.g. →

Non-deterministic:- Robot on mars

Deterministic:- Tic Tac Toe game

Question-05

What is turing test?

Answer

• Turing Test:
A test for intelligence in computer, requiring that a human being should be unable to distingue the machine from another human by using the reply to question put to both. It originally called 'The imitation game' by Alan turiny in 1950.

Give two real wored e.g. of hybrid agent.
explain their characteritics.

Answer

The Hybrid agent removes some of challen
gens you might when you configure an
exchange Hybrid environment.

e.g.→
(i) External DNS (Neuro - symbolix
concept Learner)

(ii)   such searches

characteristics:-

A Hybrid AI system of
autonoumous inteligent would idelly be adapti
and reflexible to learn new concept, interpr
& common and acqeired knowledge.