DEPARTMENT OF INFORMATION TECHNOLOGY

Collaborative Learning

Academic Year 2021-2022 Even Semester

Degree, Semester & Branch: VI Semester B.TECH-IT
Course Code & Title: JIT1602 Artificial Intelligence
Type of Activity: Learning through Mind map, Recap
Topic: Typical Intelligent Agents, Revision of Unit I

Objectives:
O1: To familiarize the students to learn typical Intelligent agents.
O2: To make the students to elucidate the characteristics of intelligent agents.

Description:
A mind map is a graphical way to represent ideas and concepts. It is a visual thinking tool that helps structuring information. It is often created around a single concept, drawn as an image in the center of a blank page, to which associated representations of ideas such as images, words and parts of words are added. Recap is short for recapitulation or briefly going over what has already been said.

Justification for choosing the particular topic:
The topic "Typical Intelligent Agent" is more important concept in the introduction of agents. Hence this activity will help the students to identify the theoretical concepts into picture and also helps to easy remembrance for their examination. The revision of the unit boosts the confidence of students.

Mind Map Activity:
- Instructor explained the particular concepts/topic in classroom within 30 minutes
- Based on the discussion and after clarifying the doubts raised by the students, the teacher asked the students to draw a mind map related to the topic within 15 minutes.
- Each student drawn a mind map based on their understanding level of the particular topic.
- Instructor collected the sheets from the students and the next class teacher appreciated the good mind map from students and gave 10 minutes time to explain whatever they drawn in their paper. Other students in the class listened the discussion
- This helped the students to recall the topic discussed on the particular day, generate the new idea about the topic and they easily answered the questions from this topic.

Recap Activity:
- The activity was conducted in the revision hour. Instead of revise the concepts by the instructor; the activity involved the students to revise the unit.
- Recap activity included choose the correct answers and short questions.
- The ppt was shown in the class room with animated slides. At a time one question was displayed. After a minute register number of a student was displayed.
- The corresponding register number student gave the answer for the question.

Reflective critique

Challenges:
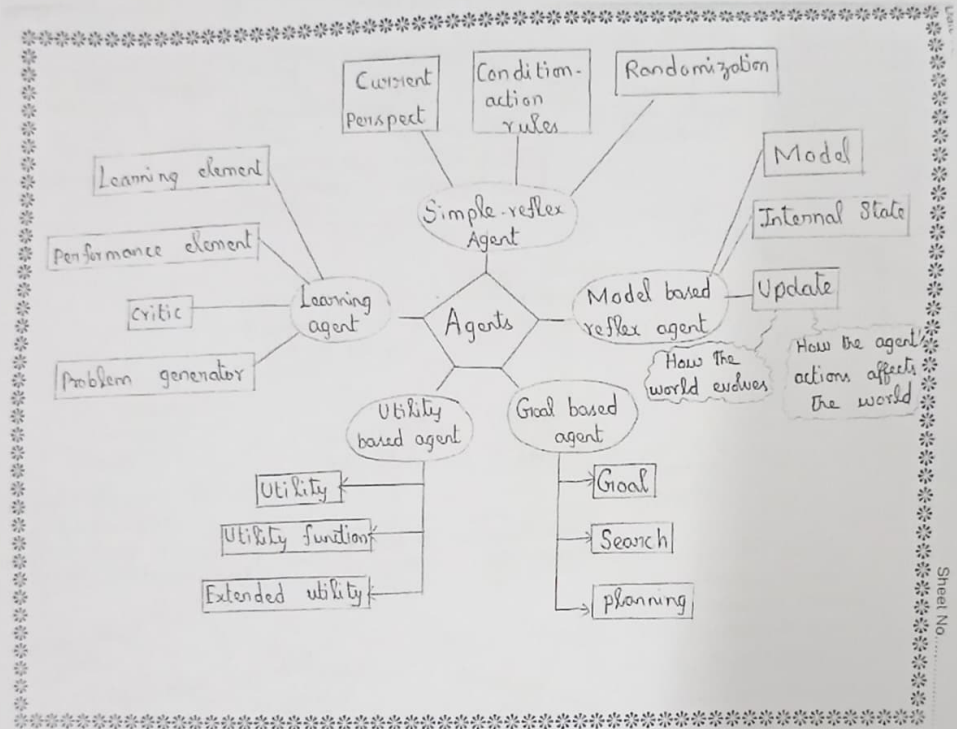- Some of the students represent very less key points in the mind map
- Appearance of the mind map was not clearly represented.

Steps taken for address the challenges:
- Explained the uses of mind maps for topic and asked the students to represent all key points.
- Course Instructor advised the students to use mind map while preparing for the examination instead of reading the entire content

Sample Mind Maps:

Name : R.Siva Ranjini   Reg no : 953617104043
CSE - III year

Problems:
limited intelligence
too big to generate
not adaptive
to change

Function SRA (percept) return action
State : rule
State — Interpret — input (percept)
rule ← Rule — Match (state, rule)
action ← Rule - Action (rule)
return action

two important factors
- model — "how things happen in the world"
- Internal
State — Representation of the current state based on percept history

Condition
Action
Rule

Fully observable
environment

decision on the
basis of current
percepts, ignores history

Simple reflex Agents

AI AGENTS

partially observable environment → **Knowledge of world**

model
based
reflex agent

Function model-based - RA (percept) return action
persistes : state
model — how the next state depends on rules   current action
action — recent action
state - UPDATE - STATE (state, action, percept, model)
rule ← rule-match (state, rule)
action ← rule, Actions
return action

Learning Agents

learning from its
past experience

act with basic knowledge
and then adapt
automatically through
learning

Utility based Agent

maps each
state to a
real number

Chosen in
order to
perform
action

provide an
extra component
of utility
measurement

best way to
achieve the
goal.

multiple possible
alternatives

Goal based agent

considers a
long sequence of
possible actions
before deciding

Searching and
planning, which
makes an agent
proactive

needs
goal which
describes
desirable situation

expand the
capacities of the
model based agent
by having the goal
information

Choose an action
to achieve goal

performance element
Selecting
external
action

four conceptual components

Learning
element

Responsible for
making

critic
Feedback
from
critic

Problem generator
responsible for
suggesting
actions

9536710 4043

DONE BY:
M. Sulaig
BC - CSE

Decision with basis of
the current percepts &
ignores the rest of percept
history

Fully observable
environment

Past experience &
(thus learning
capabilities)

Simple Reflex agent

Basic knowledge and
their able to act and adapt
automatically through
learning

Structure of an agent

Learning agent

Selecting external
action

model based reflex agent

Partially observable environment

track the
simulator

model : "how things
happen in the world"
internal state : representation
of current state based on
percept history.

utility based agent

maps on each
state to a
goal number

Best way
to achieve
the goal.

Provide an
extra component
of utility
measurement

Goal based agent

Searching
and planning,
which makes an
agent proactive

expand the capabilities of the
model based agents by having
"goal" information