**ASSIGNMENT**

**OF**

# ARTIFICAL INTELLIGENCE

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**KNOWLEDGE REPRESENTATION:**

* **Knowledge Representation** in AI describes the representation of knowledge. Basically, it is a study of how the **beliefs, intentions**, and**judgments** of an **intelligent agent** can be expressed suitably for automated reasoning.
* One of the primary purposes of Knowledge Representation includes modeling intelligent behavior for an agent.
* Knowledge Representation and Reasoning (**KR, KRR**) represents information from the real world for a computer to understand and then utilize this knowledge to solve **complex real-life problems** like communicating with human beings in natural language.
* Followings are the kind of knowledge which needs to be represented in AI:

1. Obect
2. Events
3. Performance
4. Meta-Knowledge
5. Facts
6. Knowledge-Base

**TYPES OF KNOWLEDGE:**There are 5 types of knowledge in AI:

1. **Declarative Knowledge** – It includes concepts, facts, and objects and expressed in a declarative sentence.

**2. Structural Knowledge** – It is a basic problem-solving knowledge that describes the relationship between concepts and objects.

**3. Procedural Knowledge** – This is responsible for knowing how to do something and includes rules, strategies, procedures, etc.

4. **Meta Knowledge** – Meta Knowledge defines knowledge about other types of Knowledge.

**5. Heuristic Knowledge** – This represents some expert knowledge in the field or subject.

**CYCLE OF KNOWLEDGE REPRESENTATION:**

Artificial Intelligent Systems usually consist of various components to display their intelligent behavior. Some of these components include:

* **Perception**
* **Learning**
* **Knowledge Representation & Reasoning**
* **Planning**
* **Execution**

LEARNING

PERCEPTION

KNOWLEDGE

REPRESENTATION

REASONING

PLANNING

EXECUTION