



Knowledge Representation

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Learning Objective

- Understand knowledge representation (KR) as a fundamental concept in Artificial Intelligence (AI)



What is Knowledge Representation?



- Knowledge representation (KR) is a fundamental concept in Artificial Intelligence (AI) that involves designing formal systems to store, organize, and manipulate knowledge in a way that machines can utilize it to solve complex problems.

What to Represent:

Object

Events

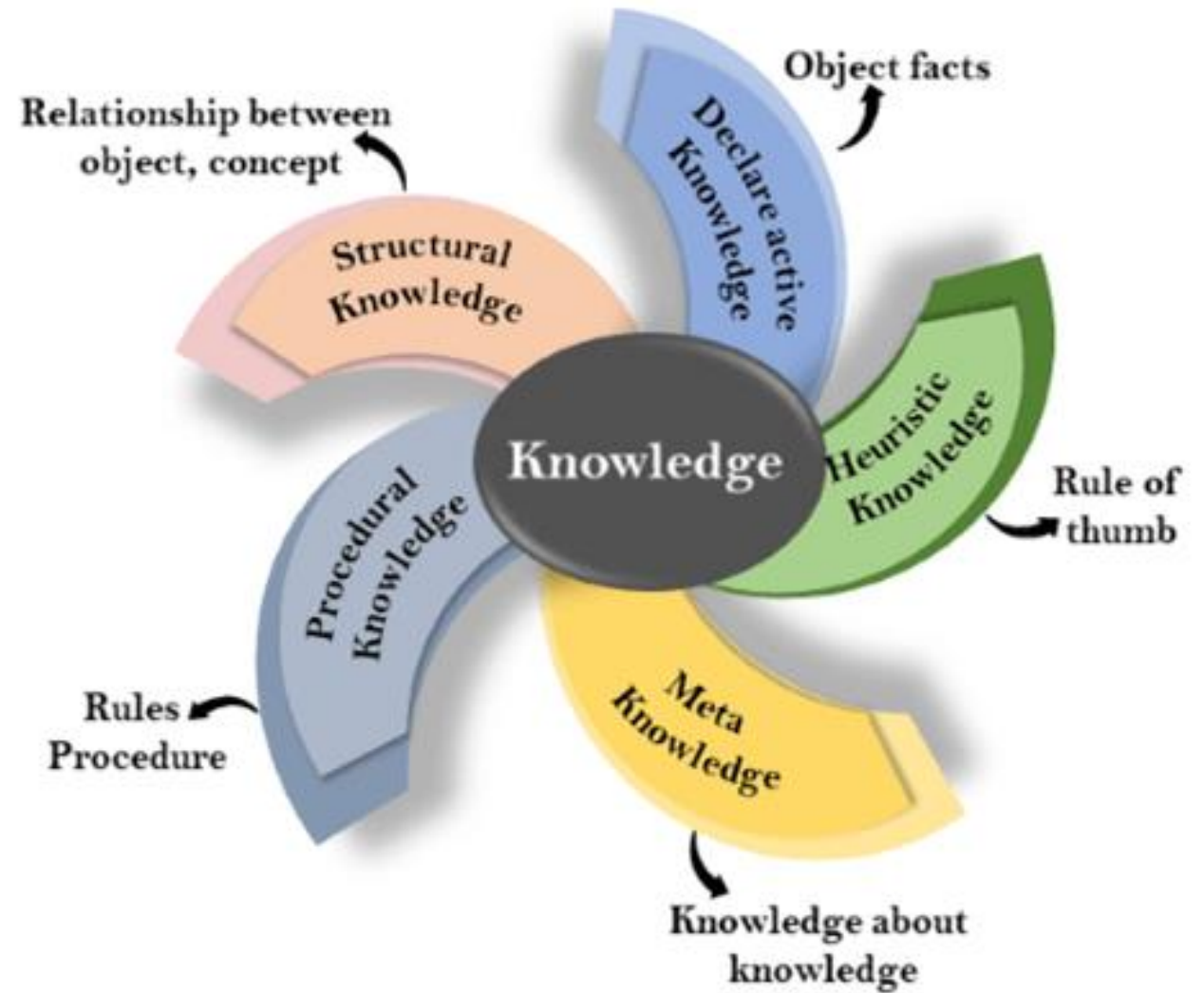
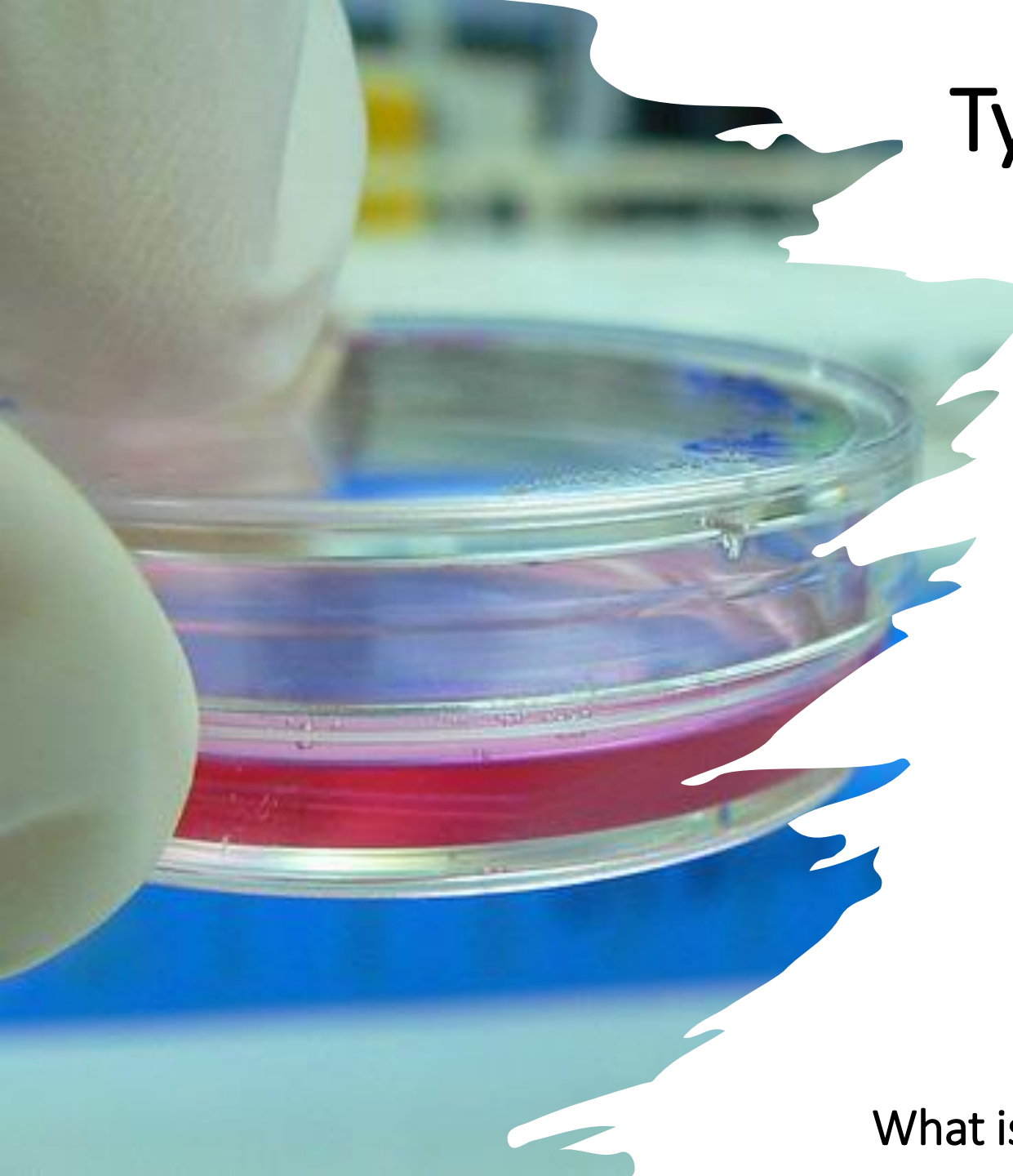
Performance

Meta-
Knowledge

Facts

Knowledge-
Base

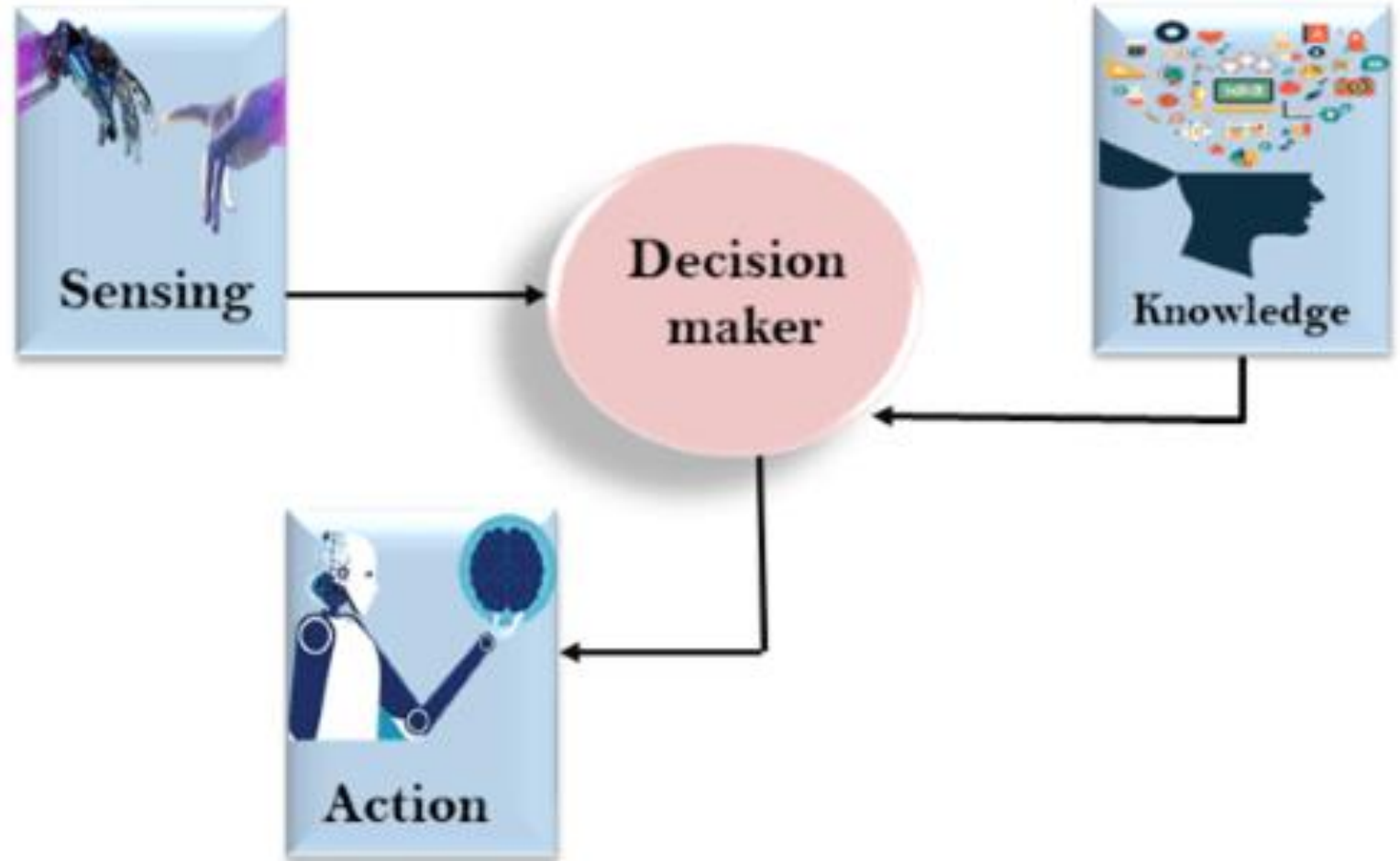
Types of Knowledge



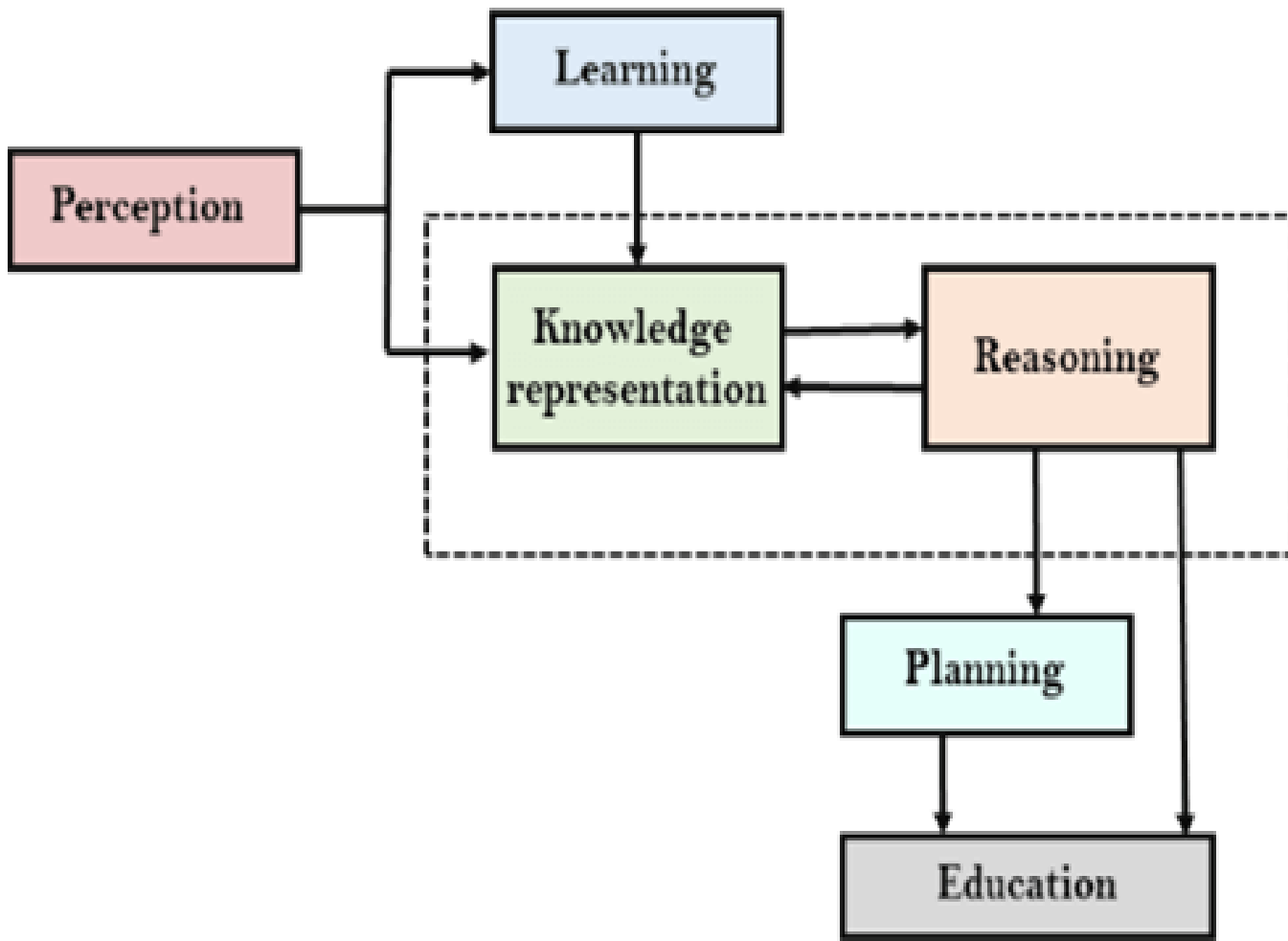
What is Knowledge?

Source: Python Geeks

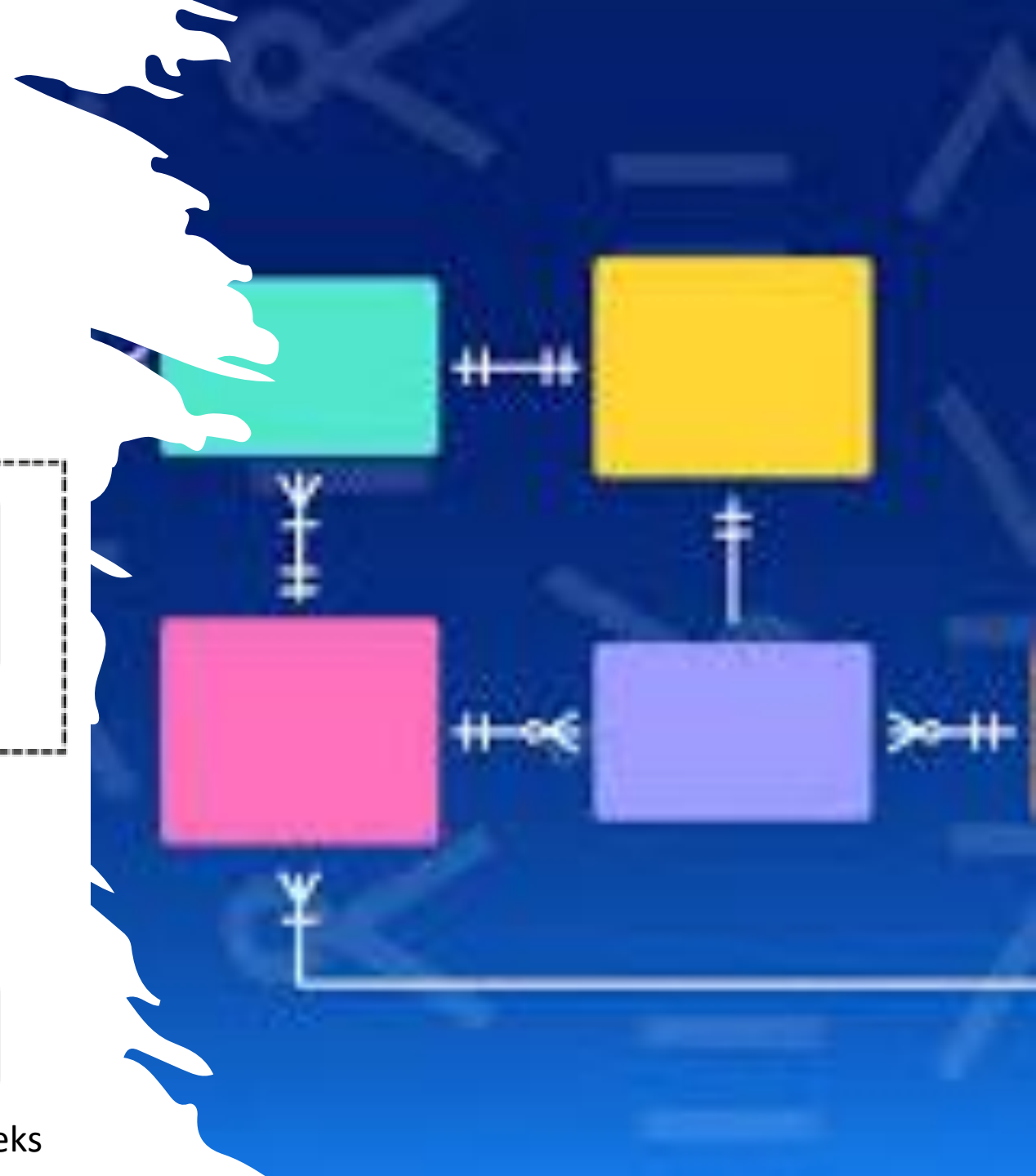
The Relationship between knowledge and intelligence



AI Knowledge Cycle



Source: Python Geeks



Approaches and Requirement to knowledge representation

Approaches

1. Simple Relational Knowledge
2. Inheritable Knowledge
3. Inferential Knowledge
4. Procedural Knowledge

Requirements

1. Representational Accuracy
2. Inferential Adequacy
3. Inferential Efficiency
4. Acquisition efficiency

Knowledge Representation Techniques

