

## Tutorial 3

1. A task environment is a theoretical construct which is supposed to supply the goal relevant consequences of allowable moves in performing the task.

### a) Auto Crane - Driving:

- Partially observable as only the location of goods, goal & path is to be known.
- Single-agent as only 1. agent involved.
- Deterministic as the goals & steps are fixed.
- Sequential as steps are done one after another.
- Semidynamic as the agent can run low on fuel/battery.
- Continuous ~~and~~ as no breaks between steps is to be taken.

### b) Animal Detection in Image:

- Partially observable as only the animal data is to be stored.
- Single-agent as no other agent involved.
- Uncertain as there may or may not be any animal to detect.
- Episodic as animal arrival frequency varies.



Dynamic as the number of animals may also change.

Discrete as pictures are taken in discrete time intervals.

2) A model-based can handle partially observable environments by the use of a model about the world. The agent has to keep track of the internal state which is adjusted by each percept that depends on the percept history.

While, goal-based AI agent can be defined as an intelligent program that can make decisions based on previous experiences, knowledge, user input and the desired goal.

3) Software (concept)

Virus (concept)

Is-a-type-of-malware (relation)

Replicates itself (relation)

Attaches to genuine software (relation)

Spreads with human interaction (relation)

Disrupts normal performance (relation)

Attaches to computer files (relation)

Damages files (relation)

Infected areas (relation)

Malicious (relation)

Replicates and infects other computers (relation)

Steals passwords, data, etc. (relation)

Corrupts files (relation)



Spams contacts (relation)  
Takes over machine (relation)  
Computer virus (synonym)  
Program (synonym)  
Malware (synonym)  
Piece of software (synonym)