Define AI paradigm to solve a real-world complex problem.

The ultimate aim of artificial intelligence is to create systems that can solve real-world problems. It does this by employing efficient and logical algorithms, utilizing polynomial and differential equations and executing them using modeling paradigms.

An AI paradigm is defined as the pair composed by a concept of intelligence and a methodology in which intelligent computer systems are developed and operated.

Three models of AI are supervised learning, unsupervised learning and semi-supervised learning.

What are the challenges related to AI?

→ Lack of understanding. AI is still a relatively new field and there is much we have yet to comprehend about its inner workings.

- Privacy concerns.
- processing power requirements
- Lack of data.

- Unreliable results.
- Lack of trust
- Unclear goals
- Technical difficulties.
- Encountering technology-related problems in the
- development process.
- Failing to reproduce lab results in the real world.
- Struggling to scale AI systems across use cases.
- Making erroneous assumptions about AI capabilities.
- Solving the ethical challenges of AI adoption.

Reason of AI Winter

First AI winter :-

→ The first AI winter occurs as the capabilities of AI programs remain limited, mostly due to the lack of computing power at the time. They can still only handle trivial versions of the problems they were supposed to solve.

→ One of the strongest and most well-known arguments against machines ever having real intelligence marked the end of the AI Winter. In 1980, John searle, a philosophy professor at the university of California,

Berkeley, introduced the chines room argument as a response to the Turing Test.

Second AI winter :-

The second AI winter began with the sudden callapse of the market for specialized A.I hardware.

Short Note :-

- **Garry kasparov :-**

Garry Kasparov is a russian chess grandmaster former wordd chess champion and widely considered one of the greatest chess players in history.

- **Deep Blue :-**

Deep blue is a computer developed by IBM that gained worddwide recognition in 1997 when it defeated the reigning world chess champion, Garry Kasparov, in a highly publicized match.

- **Alan Turing :-**

Alan Turing was a british mathematician, logician and computer scientist who played a pivatal rode in the development of modern computing and artificial intelligence.

- **John McCarthy :-**

John McCarthy was an American computer scientist and AI pioneer. He is

renowned for coining the term "artificial intelligence" and for his foundational work in AI, including the development of the LISP programming language, which played a crucial role in AI research.

- **Geoffrey Hinton:-**

Geoffrey Hinton is a British-canadian computer scientist known for his pioneering work in deep learning and neural networks. Often referred to as the "Godfather of deep learning".

- **Go :-**

Go also known as Baduk or Weiqi, is a strategic board game that originated in ancient china over 2500 years ago. It is played by two players who take turns placing black and white stones on a gridded board with the goal of capturing territory.

- **Lee Sedol :-**

Lee Sedol is a retired south Korean professional Go player who gained world wide recognition for his (ex1) exceptional skills in the ancient board game of Go.

- **Alpha Go :-**

AlphaGo is a groundbreaking artificial intelligence program developed by DeepMind, a subsidiary of Alphabet Inc.

It gained worldwide attention in 2016. when it defeated the world champion Go player Lee Sedol in a historic five-game match.

- **Move 37 :-**

Move 37 refers to a pivotal and iconic move played by AlphaGo, the artificial intelligence program developed by DeepMind, in its historic match against the world champion Go player Lee Sedol in 2016. Move 37 was a surprising and unconventional move that demonstrated AlphaGo's ability to think creatively.

- **Atlas :-**

Atlas is a humanoid robat developed by Boston Dynamics, a renowned robatics Company. It is designed for a variety of tasks including dynamic mobility.

- **Charles Babbage :-**

Charles Babbage was a 19th century British mathematician and inventor known as the "father of the computer". He designed the Analytical Engine, a mechanical general-purpose computing machine.

- **Mars Rovers :-**

Mars Rovers are robatic space-craft designed for exploration and study

of the planet Mars. Nasa's Mars rovers, such as sojourner, spirit, opportunity, curiosity and perseverance have been instrumental in advancing our understanding of the Martian environment geology. etc.