**TASK -2**

**Artificial Intelligence (AI)**: AI is the science of making machines smart, so they can perform tasks that typically require human intelligence, like problem-solving, learning, or decision-making. Think of it as creating machines that can think and act on their own.

**Machine Learning (ML)**: ML is a subset of AI that focuses on teaching machines how to learn from data and improve their performance over time without being explicitly programmed. It's like showing a machine examples so it can learn patterns and make predictions or decisions.

**Deep Learning (DL)**: DL is a type of ML that uses complex neural networks (models inspired by how our brain works) to learn from large amounts of data. It's particularly good at tasks like image and speech recognition. DL needs more data and computing power compared to regular ML but can achieve amazing results, like recognizing faces in photos.

DL

ML

AI

AI

ML

RELATIONSHIP B/W AI,ML,DS

* **Artificial Intelligence (AI)** is the broadest concept. It includes any system that mimics human intelligence, such as decision-making, problem-solving, and language understanding.
* **Machine Learning (ML)** is a subset of AI that enables systems to learn from data without explicit programming. It improves performance over time by finding patterns in data.
* **Deep Learning (DL)** is a subset of ML that uses artificial neural networks to process large amounts of data. It is used in complex tasks like image recognition, speech processing, and self-driving cars.

AI is the big umbrella, ML is a part of AI, and DL is a specialized form of ML.