1.

Machine learning (ML) is a type of artificial intelligence (AI) that **allows software applications to become more accurate at predicting outcomes without being explicitly programmed to do so**. Machine learning algorithms use historical data as input to predict new output values.

These are three types of machine learning: **supervised learning, unsupervised learning, and reinforcement learning**. The three machine learning types are **supervised, unsupervised, and reinforcement learning**.**Image recognition**. Image recognition is a well-known and widespread example of machine learning in the real world. It can identify an object as a digital image, based on the intensity of the pixels in black and white images or colour images.Machine Learning Use Cases. Advancements in AI for applications like natural language processing (NLP) and computer vision (CV) are helping industries like financial services, healthcare, and automotive accelerate innovation, improve customer experience, and reduce costs.

2.

Machine learning involves showing a large volume of data to a machine so that it can learn and make predictions, find patterns, or classify data. The three machine learning types are **supervised, unsupervised, and reinforcement learning**.

3.

**Machine learning is now seen as a silver bullet for solving all problems**, but sometimes it is not the answer. “If a typical person can do a mental task with less than one second of thought, we can probably automate it using AI either now or in the near future.”

4.

Abstraction is the skill of understanding the world by thinking about the characteristics that things possess rather than those things themselves. Generalization is the application of abstract characteristics to an entire class of things. Generalization allows us to make broad claims about the natural world.

5.

Abstraction and generalization are **the processes of facilitating a specific problem to help designers solve problems efficiently**. Abstraction and generalization reduce complexity and increase creativity.

6.

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**9 Real-World Problems Solved by Machine Learning**

* Identifying Spam. Spam identification is one of the most basic applications of machine learning. ...
* Making Product Recommendations. ...
* Customer Segmentation. ...
* Image & Video Recognition. ...
* Fraudulent Transactions. ...
* Demand Forecasting. ...
* Virtual Personal Assistant. ...
* Sentiment Analysis.

7. What are the various methods and technologies for solving machine learning problems? Any two

of them should be defined in detail.

Machine learning uses two types of techniques: supervised learning, which trains a model on known input and output data so that it can predict future outputs, and unsupervised learning, which finds hidden patterns or intrinsic structures in input data.

8.

8.

9.

10.

11.

a)

c)The key distinction between Classification vs Regression algorithms is Regression algorithms are used to determine continuous values such as price, income, age, etc. and Classification algorithms are used to forecast or classify the distinct values such as Real or False, Male or Female, Spam or Not Spam, etc