1. Application of Supervised and Unsupervised ML.

Ans..

- **Applications of Supervised Learning.**

  - **BioInformatics** - This is one of the most well-known applications of Supervised Learning because most of us use it in our day-to-day lives. BioInformatics is the storage of Biological Information of us humans such as fingerprints, iris texture, and earlobe and so on.
  - **Speech Recognition** - This is the kind of application where you teach the algorithm about your voice and it will be able to recognize you. The most well-known real-world applications are virtual assistants such as Google Assistant and Siri, which will wake up to the keyword with your voice only.
  - **Spam Detection** - This application is used where the unreal or computer-based messages and E-Mails are to be blocked. G-Mail has an algorithm that learns the different keywords which could be fake such as "You are the winner of something" and so forth and blocks those messages directly.
  - **Object-Recognition for Vision** - This kind of application is used when you need to identify something. You have a huge dataset which you use to teach your algorithm and this can be used to recognize a new instance.
  - **Signature recognition** - Recognize signatures by structural similarities which are difficult to quantify.Does a signature belongs to a specific person, say Tony Blair, or not.
  - **Customer discovery** - Predict whether a customer is likely to purchase certain goods according to a database of customer profiles and their history of shopping activities.

- **Applications of Unsupervised Learning.**

  - **Data Mining** such as audience segmentation, Customer persona investigation.
  - **Anomaly detection** can discover unusual data points in your datasets. It is useful for finding fraudulent transactions.
  - **Singular value decomposition (SVD)** is used to extract certain types of information from the datasets such as take out info on every user located in Tampa, Florida.
  - **Clustering** automatically split the datasets into groups base on their similarities.
  - Fraud detection.
  - Malware detection.
  - Identification of human errors during data entry .
  - Conducting accurate basket analysis.

2. List algorithm name in supervised and Unsupervised ML.

Ans..

- **Supervised Algorithm:**
  - **Classification** - Categorical output, main aim is to compute the category of the data.
    Example - Classify emails are spam or not-spam, etc.

  - **Regression -** Output is continuous quantity, Numeric Output, main aim is to forecast or predicted.
    Example - Predict stock market price, etc.

- **Unsupervised Algorithm:**
  - **Clustering** - Categorical output, assigns data points into clusters, main aim is to group similar items cluster.
    Example - Find all transaction which are fraudulent in nature, etc.