

- **TASK OF DAY- 5:-**

## **1. Search for videos or articles explaining Supervised vs Unsupervised learning.**

→ Videos and articles I've go through for **supervised** and **unsupervised learning**:-

- [https://youtu.be/W01tIRP\\_Rqs?si=XaS-3gSszt1oVkhHN](https://youtu.be/W01tIRP_Rqs?si=XaS-3gSszt1oVkhHN)
- [https://youtu.be/SJRojOq5P\\_4?si=xdruiPVTM\\_jA53zN](https://youtu.be/SJRojOq5P_4?si=xdruiPVTM_jA53zN)
- <https://www.geeksforgeeks.org/machine-learning/supervised-unsupervised-learning/>
- [https://www.tutorialspoint.com/machine\\_learning/machine\\_learning\\_supervised\\_vs\\_unsupervised.htm](https://www.tutorialspoint.com/machine_learning/machine_learning_supervised_vs_unsupervised.htm)

## **2. Write down in your own words:**

### **o What is supervised learning?**

→ Supervised Learning is a machine learning approach that uses labeled datasets to train the model, making it ideal for tasks like classifying data or predicting output. Supervised learning is categorized into two types –

- 1) Classification
- 2) Regression

### **o What is unsupervised learning?**

→ Unsupervised Learning is a machine learning approach used to train models on raw and unlabeled data. This approach is often used to identify patterns in the data without human supervision. Unsupervised learning models are used to for the below tasks –

- 1) Clustering
- 2) Association
- 3) Dimensionality Reduction

### **o Give one example of each.**

→ Supervised learning:-

- Image classification, Sentiment Analysis, Recommendation systems

→ Unsupervised learning :-

- Customer Segmentation, Anomaly Detection, Recommendation Engines, NLP

### 3. Try to find a small dataset online and identify if it's suitable for supervised or unsupervised learning.

- DataSet :-

| ID  | Name      | Age | Occupatio | Gender | Same_ofii | kids | RM_save | RM_qualit | RM_bette | calmer_st | RM_profe | RM_lazy | RM_produ | digital_co | RM_bette | RM_imprc | RM_job_o | Target |
|-----|-----------|-----|-----------|--------|-----------|------|---------|-----------|----------|-----------|----------|---------|----------|------------|----------|----------|----------|--------|
| 1   | Bhavana   | 45  | Tutor     | Female | Yes       | Yes  | Yes     | Yes       | Yes      | CALMER    | 5        | 1       | 5        | Yes        | 5        | 5        | Yes      | 1      |
| 2   | Harry     | 24  | Tutor     | Male   | No        | No   | No      | No        | No       | CALMER    | 2        | 2       | 2        | No         | 3        | 3        | No       | 1      |
| 3   | Banditaa  | 53  | HR        | Female | Yes       | Yes  | Yes     | Yes       | Yes      | CALMER    | 3        | 3       | 4        | No         | 5        | 3        | No       | 1      |
| 4   | Neetha    | 26  | Engineer  | Female | Yes       | No   | Yes     | Yes       | No       | STRESSED  | 3        | 4       | 4        | No         | 4        | 5        | Yes      | 0      |
| 5   | Ram       | 26  | Recruiter | Male   | Yes       | No   | No      | Yes       | No       | STRESSED  | 3        | 3       | 5        | Yes        | 4        | 2        | Yes      | 1      |
| 6   | Gaurav    | 27  | Recruiter | Male   | No        | No   | Yes     | Yes       | Yes      | CALMER    | 3        | 3       | 3        | No         | 3        | 5        | Yes      | 0      |
| 7   | Sandy     | 24  | Engineer  | Male   | Yes       | No   | No      | No        | No       | CALMER    | 3        | 4       | 2        | No         | 2        | 3        | Not sure | 1      |
| 8   | Gina      | 36  | Engineer  | Female | No        | No   | No      | Yes       | No       | STRESSED  | 3        | 4       | 3        | No         | 3        | 4        | Not sure | 0      |
| 9   | Ray       | 26  | Engineer  | Male   | No        | No   | Yes     | Yes       | Yes      | STRESSED  | 2        | 4       | 3        | No         | 2        | 4        | Not sure | 0      |
| 10  | Ganika    | 26  | Recruiter | Female | No        | No   | Yes     | Yes       | Yes      | CALMER    | 3        | 2       | 4        | No         | 4        | 3        | Not sure | 1      |
| 11  | Sheetal   | 27  | Engineer  | Female | Yes       | No   | Yes     | Yes       | No       | STRESSED  | 4        | 4       | 4        | No         | 4        | 4        | Yes      | 0      |
| 12  | Abbas     | 25  | Engineer  | Male   | No        | No   | Yes     | Yes       | Yes      | CALMER    | 4        | 3       | 4        | No         | 3        | 4        | Yes      | 1      |
| 13  | Ishanvi   | 26  | Business  | Female | No        | No   | Yes     | Yes       | Yes      | CALMER    | 1        | 2       | 3        | Yes        | 5        | 3        | Yes      | 1      |
| 14  | Ira       | 25  | Business  | Female | No        | No   | Yes     | No        | No       | STRESSED  | 4        | 4       | 3        | No         | 3        | 3        | Not sure | 0      |
| 15  | Sameera   | 25  | Business  | Female | Yes       | No   | Yes     | Yes       | No       | STRESSED  | 4        | 4       | 4        | No         | 4        | 4        | Yes      | 0      |
| 16  | Ryan      | 28  | Engineer  | Male   | No        | No   | No      | No        | Yes      | STRESSED  | 3        | 3       | 4        | No         | 3        | 3        | Yes      | 1      |
| 17  | Shahid    | 25  | Recruiter | Male   | No        | No   | Yes     | Yes       | Yes      | CALMER    | 4        | 3       | 2        | No         | 3        | 3        | Not sure | 0      |
| 18  | Aadvik    | 24  | Business  | Male   | No        | No   | No      | Yes       | No       | STRESSED  | 1        | 5       | 2        | No         | 3        | 5        | Yes      | 0      |
| 19  | Priya     | 44  | Tutor     | Female | No        | Yes  | No      | No        | No       | STRESSED  | 4        | 1       | 3        | No         | 4        | 3        | No       | 0      |
| 20  | Alok      | 25  | Marketing | Male   | Yes       | No   | Yes     | No        | No       | STRESSED  | 4        | 3       | 4        | Yes        | 2        | 5        | Yes      | 1      |
| 21  | Ashvik    | 44  | Marketing | Male   | Yes       | Yes  | No      | Yes       | No       | STRESSED  | 2        | 1       | 3        | No         | 3        | 2        | No       | 0      |
| 22  | Kiara     | 29  | Engineer  | Female | Yes       | No   | Yes     | Yes       | Yes      | STRESSED  | 5        | 5       | 1        | No         | 1        | 2        | Not sure | 0      |
| 23  | Sangeetha | 41  | Tutor     | Female | No        | Yes  | Yes     | Yes       | Yes      | STRESSED  | 3        | 2       | 4        | Yes        | 3        | 4        | No       | 0      |
| 24  | Kabir     | 28  | Manager   | Male   | Yes       | No   | No      | No        | No       | STRESSED  | 2        | 4       | 3        | No         | 2        | 5        | Not sure | 0      |
| 25  | Pari      | 21  | Recruiter | Male   | No        | No   | Yes     | Yes       | Yes      | CALMER    | 3        | 3       | 4        | Yes        | 4        | 4        | No       | 1      |
| 26  | Anu       | 42  | Tutor     | Female | Yes       | Yes  | Yes     | Yes       | No       | STRESSED  | 1        | 1       | 5        | Yes        | 4        | 5        | Yes      | 0      |
| 27  | Sujitha   | 32  | Engineer  | Female | Yes       | Yes  | Yes     | Yes       | Yes      | CALMER    | 4        | 1       | 5        | Yes        | 3        | 3        | Not sure | 1      |
| 28  | Sathyaram | 26  | HR        | Male   | Yes       | No   | Yes     | Yes       | No       | STRESSED  | 2        | 4       | 5        | Yes        | 4        | 4        | Not sure | 0      |
| 29  | Shoba     | 36  | Tutor     | Female | Yes       | Yes  | Yes     | Yes       | Yes      | CALMER    | 4        | 3       | 3        | No         | 1        | 1        | Not sure | 0      |
| 30  | Anisha    | 25  | Manager   | Female | No        | No   | Yes     | No        | No       | STRESSED  | 4        | 3       | 3        | Yes        | 3        | 1        | Not sure | 0      |
| 31  | Lekha     | 25  | Marketing | Female | Yes       | No   | Yes     | Yes       | Yes      | CALMER    | 3        | 1       | 5        | No         | 4        | 3        | Not sure | 1      |
| 32  | Charvik   | 22  | HR        | Male   | No        | No   | Yes     | Yes       | No       | STRESSED  | 2        | 4       | 3        | No         | 5        | 3        | Yes      | 0      |
| 33  | Darsh     | 28  | Manager   | Male   | No        | No   | No      | No        | No       | STRESSED  | 5        | 1       | 3        | Yes        | 1        | 3        | Yes      | 1      |
| 34  | Dhanya    | 27  | Manager   | Female | No        | No   | Yes     | No        | No       | STRESSED  | 3        | 5       | 5        | Yes        | 1        | 4        | Not sure | 0      |
| 35  | Shilpa    | 25  | HR        | Female | Yes       | No   | Yes     | Yes       | Yes      | CALMER    | 1        | 1       | 5        | Yes        | 5        | 4        | Not sure | 1      |
| 36  | Laksh     | 21  | Marketing | Male   | No        | No   | Yes     | Yes       | Yes      | CALMER    | 3        | 4       | 3        | No         | 3        | 2        | Not sure | 0      |
| 37  | Manan     | 25  | Recruiter | Male   | No        | No   | Yes     | No        | No       | STRESSED  | 3        | 5       | 3        | No         | 3        | 4        | Not sure | 0      |
| ... | ...       | ... | ...       | ...    | ...       | ...  | ...     | ...       | ...      | ...       | ...      | ...     | ...      | ...        | ...      | ...      | ...      | ...    |

→ Provided dataset is supervised dataset.