Question Unsupervised learning

Explain in your own words what Unsupervised learning is and name at least one algorithm and say for what it can be used. (Tasks)

1) The main goal is to explore the structure of the data to extract meaningful information without the guidance of a known outcome variable.
The aim is to find intrinsic structures in Data like regularities, irregularities, relationships, similarities and associations in the input.

2) Cluster algorithms are a good example to group similar data to groups. The most popular algorithm is K-means. Further, K-means can also be used effectively for
- Anomaly detection,
- Cluster detection,
- Outlier detection in a given dataset.

3) Another approach would be to minimize the dimensionality of a given dataset, this would be hereby really helpful to do feature preprocessing and compress data onto smaller dimensional subspace.