HLT

Select one or more choices from the list of common Machine Learning Algorithms, do some investigations and write me a short summary. I am looking for the following:

• Is it Supervised/Unsupervised/Reinforcement learning?

• What does the algorithm do?

• In which situations will it be most useful?

• (Optional) Can you find any examples of where this algorithm has been used?

Common Machine Learning Algorithms:

1. Linear Regression
2. Logistic Regression
3. Decision Tree
4. SVM (Support Vector Machine)
5. Naive Bayes
6. KNN (K- Nearest Neighbours)
7. K-Means
8. Random Forest

**Linear Regression**

Linear regression is a supervised machine learning algorithm useful in predicting the value of a continuous quantitative variable. The prediction is based on the linear relationship between one (or many) independent variable(s) IV - the predictor(s) - and the dependent variable DV - the variable to be predicted.

In the case of one IV and one DV, the linear regression algorithm finds the equation of the line (in the form of y = mx+b) that best fits the data i.e. that results in the least error. = simple linear regression

In cases where there are multiple IVs, the linear regression algorithm finds the equation of the plane or hyper plane (in the form of y = b0 + m1b1 + m2b2 + m3b3 + ... ... mnbn) = multiple linear regression

Ex: this algorithm has been used to predict test scores based on hours studied or fuel consumption based on fuel tax, average income …