Machine Learning Worksheet

1. O(n)
2. Polynomial Regression
3. Gradient Descent
4. Lasso
5. Batch gradient descent
6. False
7. It doesn't matter whether half is there or not.
8. Correlation
9. (A) We don't have to choose the learning rate.
   (C) We need to iterate.
10. (A) Linear Regression will have high bias and low variance.
    (C) Polynomial with degree 5 will have low bias and high variance.
11. It discovers casual relationship
12. Linear regression with lasso can be used because it will eliminate the features which are highly correlated and we will left with less number of feature.
13. Feature scaling is a method to normalize the data of different features or independent variables. This is usually used when independent variables have different range of variations. One feature is ranging between 0 and 5 but another is ranging from -1000 to +1000. Then feature scaling may required. Distance based algorithms such as k-NN, k-mean and SVM need feature scaling. Gradient descent based algorithm also need feature scaling such as linear regression, logistic regression and neural network. On the other hand tree based algorithms don't need any feature scaling. Decision tree, random forest, and Adaboost etc are insensitive to the feature scaling.