# 2017 Summer: COMP-SCI 5590 - Special Topics

# Python Programming

# Tutorial 6

**Course Plan**

Regression Techniques

Linear Regression

Logistic Regression

Clustering Techniques

**In-Class Exercise**

1. Create linear regression model for the following table using numpy only. Plot the model using matplotlib.

| X | Y |
|---|---|
| 0 | 1 |
| 1 | 3 |
| 2 | 2 |
| 3 | 5 |
| 4 | 7 |
| 5 | 8 |
| 6 | 8 |
| 7 | 9 |
| 8 | 10 |
| 9 | 12 |

Hints: You need to calculate the mean of X , Y using numpy and then calculate the regression coefficients.

## Assignment Overview

The following assignment focus on to make one familiar with regression and clustering techniques

## Lab Assignment

1) Pick any dataset from the dataset sheet in class sheet and make one prediction model using your imagination
    - Linear regression.
    - Logistic regression
2) Solve T Shirt size problem as illustrated in class using any of the clustering methods.
3) Explain and give an example of any of the clustering techniques below:

- Spectral
- Hierarchical

## Submission Guidelines:

- Submit your code at Github and properly document it. Submit your screenshots as well.
- Properly document your code
- Remember code similarity less than 45%
- Use following link to submit your assignment:

https://goo.gl/forms/5r5KqG2Mm412YdqL2