

# COMP20008 2020 SM1 Workshop Week 8:

## Clustering and Linear Regression

### Clustering

1. Consider the 1-dimensional data set with 10 data points  $\{1, 2, 3, \dots, 10\}$ . Show the iterations of the k-means algorithm using Euclidean distance when  $k = 2$ , and the random seeds are initialized to  $\{1, 2\}$ .
2. Repeat Exercise 1 using agglomerative hierarchical clustering and Euclidean distance, with single linkage (min) criterion.

### Regression and Clustering visualisation

Questions 3 – 4, use the Python notebook *workshop-week8-2020S1-regression.ipynb*.