**• Requirement**

– Implement a k-nearest-neighbors (KNN) classifier using Python (50%)  
• You **\*\*cannot\*\*** use existing KNN libraries (e.g., sklearn.neighbors.KNeighborsClassifier)

– Use your KNN classifier to predict the class of the iris plants based on the iris dataset (<http://archive.ics.uci.edu/ml/datasets/Iris>) (40%)  
• Separate the data into training (50%) and test (50%) datasets. Please make sure the dataset is split in a stratified fashion, i.e., the class distributions in the training and the test datasets are the same as the class distribution in the entire dataset.  
• Report both the training and the test error for k = 1, 2, 3, …, 20

**• A brief discussion of the results (10%)**

**• Please submit your code and report to LMS**

**–**Compress "code.py" and "report.pdf(.docx)"  in zip(or rar) format

– Rename your zip file to "studentid.zip" (e.g 107522053.zip)

**• Due date: 10/14 23:59:55**