# CS 3753 & 5163 Data Science Summer 2020
## Homework 1 (100 points)

**Submission**:

1. submit a single python script (abc123_hw1.ipynb) through blackboard.
2. You should submit a readMe.txt file. Give the instruction to the TA. So, he knows how to run your code. It should run successfully in Jupyter Notebook (It is integrated in Anaconda. Follow the instruction posted in BB lecture 2 to install Anaconda).
3. Do not compress your files
4. The late submission will lose 15% points. Your code should run successfully. There is a limit of half points max if the code cannot run.
5. You can submit your homework 3 times before the deadline.

**Questions**

### 1. String (20 points)

# Creating a string "Welcome to Python Programming"
# Output the string using the function Print
# Output the substring from indexes 11 to 16.
# Output the substring of the last 5 characters
# Replace the substring "Programming" with "Environment"

### 2. List (32 points)

# Create an empty list
# Add elements 1, 2, 3, 4 into the list one by one
# Add the tuple (5, 6) to the end of the list
# Add the list ['perfect', 'wonderful'] to the end of the list
# Concatenate the list of lists [[7, 8], [9, 10]] into the list
# Add the multiple elements 8.5, 7, 'code', 'software' to the end of the list at once.
# Output the last 5 elements in the list
# Remove the elements from indexes 3 to 6.

### 3. Tuple (16 points)

# Create a tuple Tuple1 using the list with elements 1, 2, 3, 4
# Create another tuple Tuple2 with elements 'Python', 'for', 'kids
# Concatenate the tuple Tuple2 to the end of Tuple1 and assign the resulted tuple to Tuple1
# Output elements from index 3 to the end

### 4. Dictionary (32 points)

# Creating an empty dictionary Dict
# Adding elements 0: 'Python', 1: 'Programming', 2: 'Funny' one by one
# Update the key 1's value to 'is very'

# Output all the keys
# Output all the values
# Delete the element with the key *2*. (Note: you should delete the entire element with the key and data).
# Check for existence of key *2* and output the result
# Convert the values in the dictionary Dict to a list and output the result