DSA 5620 Big Data Analytics
In Class Programming – 1

Please complete the below installations.

1. Create a Google Colab notebook
2. Mount the google drive to Google Colab notebook
3. Create the Github repository make it public with readme file.
4. Save the Colab notebook in your Github repository.
5. In your colab file, write a python program for the following:

    a. Input the string "Python" as a list of characters from console, delete at least 2 characters, reversetheresultant string, and print it.

    Sample input:

    - python

    Sample output:

    - htyp

    b. Take two numbers from user and perform at least 4 arithmetic operations on them.

6. Write a program that accepts a sentence and replace each occurrence of 'python' with 'pythons'.

    - *Sample input:*
    - I love playing with python
    - *Sample output:*
    - I love playing with pythons

7. Use the if statement conditions to write a program to print the letter grade based on an input class score. Use the grading scheme we are using in this class.

8. Write a code that appends the type of elements from a given list.
    Input
    x = [23, 'Python', 23.98]
    Expected output
    [23, 'Python', 23.98]
    [<class 'int'>, <class 'str'>, <class 'float'>]

9. IT_companies = {'Facebook', 'Google', 'Microsoft', 'Apple', 'IBM', 'Oracle', 'Amazon'}
   A = {19, 22, 24, 20, 25, 26}
   B = {19, 22, 20, 25, 26, 24, 28, 27}
   age = [22, 19, 24, 25, 26, 24, 25, 24]

   - Find the length of the set IT_companies
   - Add 'Twitter' to IT_companies
   - Insert multiple IT companies at once to the set IT_companies
   - Remove one of the companies from the set IT_companies
   - What is the difference between remove and discard
   - Join A and B
   - Find A intersection B
   - Is A subset of B
   - Are A and B disjoint sets
   - Join A with B and B with A
   - What is the symmetric difference between A and B
   - Delete the sets completely
   - Convert the ages to a set and compare the length of the list and the set.

Submission Guidelines:

1. Write your complete name in the readme file.
2. Create a folder for ICP 1 in your Github repo that contains the code file.
3. Create a pdf report for an ICP containing screenshots of your code and results along with the public video link (e.g URL of your YouTube video) of the tasks being performed in class (Video is only required if you are unable to show in class).