Subject: Python Programming

Type of Activity: Assignment (marks 10)

Submission Deadline: 15th December 2021

How to submit?
- Write your Python code in Jupyter Notebook and run it to show the output
- Create a single PDF file of the code file with the output
- Login to the official UofSindh LMS Portal
- Go to the Python Programming (Theory) course for your class
- Upload your assignment submission file (single PDF file) under <u>week 16</u>

Assignment Description: Do ***ANY ONE*** of the following tasks.

TASK 1

Write a Python program that takes input from the user the name of a text file (the file contains the text given below), and counts and displays the number of times each word occurs in the file.

<u>Concepts to use in this task:</u> Reading a text file, creating and updating a dictionary, iterating through a dictionary and displaying its contents.

```
my_file.txt
It was the best of times, it was the worst of times, it was the age of
wisdom, it was the age of foolishness, it was the epoch of belief, it was the
epoch of incredulity, it was the season of light, it was the season of
darkness, it was the spring of hope, it was the winter of despair.
(Charles Dickens, A Tale of Two Cities)
```

<u>Program output for Task 1:</u>
```
Enter a filename: my_file.txt

* WORD COUNTS *
it - 10
was - 10
the - 10
best - 1
of - 10
times, - 2
worst - 1
age - 2
wisdom, - 1
foolishness, - 1
epoch - 2
belief, - 1
incredulity, - 1
season - 2
light, - 1
darkness, - 1
spring - 1
hope, - 1
winter - 1
despair. - 1
```

TASK 2

Write a Python program to maintain a user's todo items in a text file. The program repeatedly asks the user to input a todo item. The todo item is appended to the text file (my_todos.txt). Additionally, if the user enters 'SHOW', the items from the todo file (my_todos.txt) are displayed and the program exits.

Concepts to use in this task: Reading and writing (appending) to a text file, reading and displaying the contents of a file line by line.

Program output for Task 2:

```
Enter a todo item (SHOW to display items and exit): haircut
Enter a todo item (SHOW to display items and exit): pay bills
Enter a todo item (SHOW to display items and exit): prepare for test
Enter a todo item (SHOW to display items and exit): SHOW

* MY TODO ITEMS *
haircut
pay bills
prepare for test
```