

AB0403 Decision Making with Programming and Data Analytics
2019/2020 Semester 2

Assignment – ToDo Program

In this assignment, you are required to construct a simple ToDo program based on Python programming. A ToDo program helps one to keep track and monitor important tasks to be completed. A typical ToDo program lists down the names of tasks to be completed and an indication of whether each task has been completed. Stephen Covey proposed a good strategy to categorize tasks in his book “The 7 habits of Highly Effective People”. Each task is to be charted in one of the four quadrants defined by urgency and importance as shown in Figure 1. For example: completing LAMS 4 is a task needs to be completed, it is important as part of the assessment in this course and it is also urgent because it will be due tomorrow. Hence this task is placed at the top left-hand corner as a pressing task to be completed.

	Urgent	Not Urgent
Important	<ul style="list-style-type: none">• LAMS 4	<ul style="list-style-type: none">• AB0403 Assignment
Not Important	<ul style="list-style-type: none">• Buy Grocery	<ul style="list-style-type: none">• Watch Star Wars

Figure 1 Categorizing Task

You are to develop a program that allows user to enter, view, and edit a ToDo list. This program reads in a text file called “todo.txt” storing all the items. Any changes or additions of items will then be stored back in the same file. Figure 2 shows a sample todo.txt. The first line contains header information describing all columns. The first column of data is the name of the task, second column is the importance, third column for urgency, and last column indicates if the task has been completed. Line 2 onwards will be the item listing. First item in

the listing is “AB0403 Assignment”, it is important and not urgent and yet to be completed. The last three columns come with Yes or No indication corresponds to its importance, urgency and completion.

1	Name,Important,Urgent,Completed
2	AB0403 Assignment,Yes,No,No
3	Watch Star Wars,No,No,No
4	LAMS 4,Yes,Yes,Yes
5	Buy Grocery,No,Yes,No

Figure 2 Text File Storing ToDo Items

The running of program is shown below:

1. Program will print a welcome menu showing 3 options for user to choose from. Options include viewing, adding, and marking an item as completed. The welcome menu will continue to be printed until user selects option 4 for exit.

```

Welcome to my TODO simple app
-----
1. Viewing Todo List
2. Add in Todo Item
3. Completed an Item
4. Exit

Enter your option:
  
```

Figure 3 Main Menu Options

2. When user enters 1 for viewing Todo List, Todo listing will be shown displaying all the items from todo.txt and followed by printing the earlier welcome menu. In the Todo listing, the first item will be displayed with numeric of 1 (as this is the first item) with a colon separator and description text of “AB0403 Assignment is important and is not urgent, it has not been completed.”. Other items are displayed in a similar manner.

```
Welcome to my TODO simple app
-----
1. Viewing Todo List
2. Add in Todo Item
3. Completed an Item
4. Exit

Enter your option:
1
Todo List.
1 : AB0403 Assignment is important and is not urgent, it has not been completed.
2 : Watch Star Wars is not important and is not urgent, it has not been completed.
3 : LAMS 4 is important and is urgent, it has been completed.
4 : Buy Grocery is not important and is urgent, it has not been completed.

Welcome to my TODO simple app
-----
1. Viewing Todo List
2. Add in Todo Item
3. Completed an Item
4. Exit

Enter your option:
```

Figure 4 Viewing Todo List

3. When user enters 2 for Adding in a Todo Item, user will then be asked to enter information about the item and followed by printing the welcome menu. Three information are needed from user: name of the item, urgency by Yes or No, importance by Yes or No. A description text will then be displayed using the information given by user and the record will be added. The newly added item will automatically be marked as “No” for completion.

```
1. Viewing Todo List
2. Add in Todo Item
3. Completed an Item
4. Exit

Enter your option:
2
Add Item.
Enter the name of the new item: Preparing for PA
Is it urgent? [Yes/No]No
Is it important? [Yes/No]Yes
The item has been added as follows: Preparing for PA is important and is not urgent, it has not been completed.

Welcome to my TODO simple app
-----
1. Viewing Todo List
2. Add in Todo Item
3. Completed an Item
4. Exit

Enter your option:
```

Figure 5 Add in Todo Item

4. When user enters 3 for marking an item to be completed, the todo listings will be shown. User will then be prompted to enter the item number to be marked as completed. A text description will then be shown displaying the task has been completed.

```

1. Viewing Todo List
2. Add in Todo Item
3. Completed an Item
4. Exit

```

Enter your option:

3

```

Todo List.
1 : AB0403 Assignment is important and is not urgent, it has not been completed.
2 : Watch Star Wars is not important and is not urgent, it has not been completed.
3 : LAMS 4 is important and is urgent, it has been completed.
4 : Buy Grocery is not important and is urgent, it has not been completed.
5 : Preparing for PA is important and is not urgent, it has not been completed.
Enter item number you have completed: 5
The item has been marked completed: Preparing for PA is important and is not urgent, it has been completed.

```

```

Welcome to my TODO simple app
-----
1. Viewing Todo List
2. Add in Todo Item
3. Completed an Item
4. Exit

```

Figure 6 Complete an Item

5. Lastly, when user is done with the program by entering 4 to exit, program will print a "Good bye!" and all changes will be written back to the same todo.txt file.

```

Welcome to my TODO simple app
-----
1. Viewing Todo List
2. Add in Todo Item
3. Completed an Item
4. Exit

Enter your option:
4
Good bye!

```

todo.txt	
1	Name,Important,Urgent,Completed
2	AB0403 Assignment,Yes,No,No
3	Watch Star Wars,No,No,No
4	LAMS 4,Yes,Yes,Yes
5	Buy Grocery,No,Yes,No
6	Preparing for PA,Yes,No,Yes

Figure 7 Exiting the Program

Submission

Submit your completed work in one single Python file in .py format. Name the file as "Assignment_SX_YourStudentID.py". Replace X with your seminar number, and change YourStudentID to your ID, for example U1418412A. The text file todo.txt does not need to be submitted. Marking will take into consideration your code readability, program functionality, appropriate use of data and syntax.

Due Date: **Week 8 (9 March 8 a.m.)**

Assignment Rubrics:

Traits	Weightage
Demonstrate understanding in data types and apply it in the right context.	20%
Coding solution <ul style="list-style-type: none">- Demonstrates understanding of coding elements.	35%
Program functionality <ul style="list-style-type: none">- Implement the required functions in requirements.	35%
Code readability	10%