BIRZEIT UNIVERSITY

FACULTY OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF COMPUTER ENGINEERING

Computer Architecture First Project
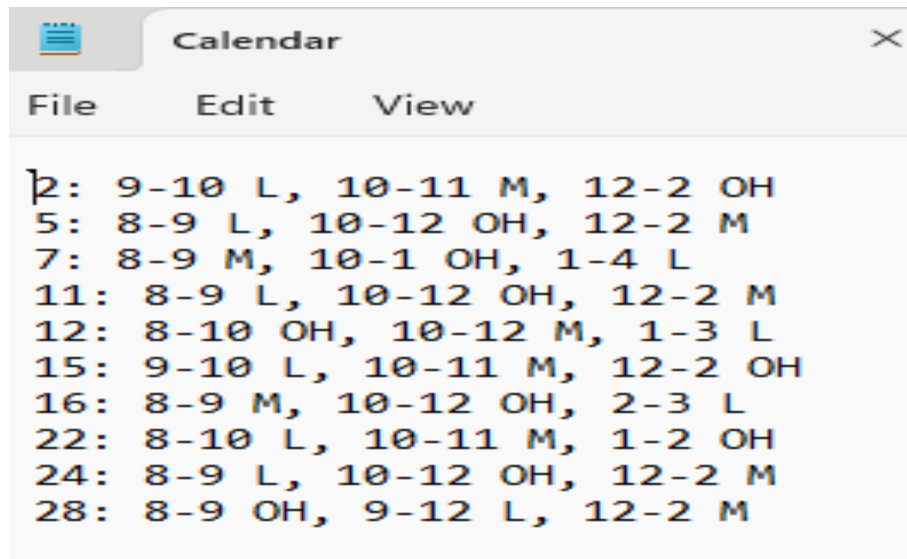**Interactive Monthly Calendar Application**
ENCS4370

Prepared by: Shereen Ibdah- Saja Shareef
ID: 1200373-1200901
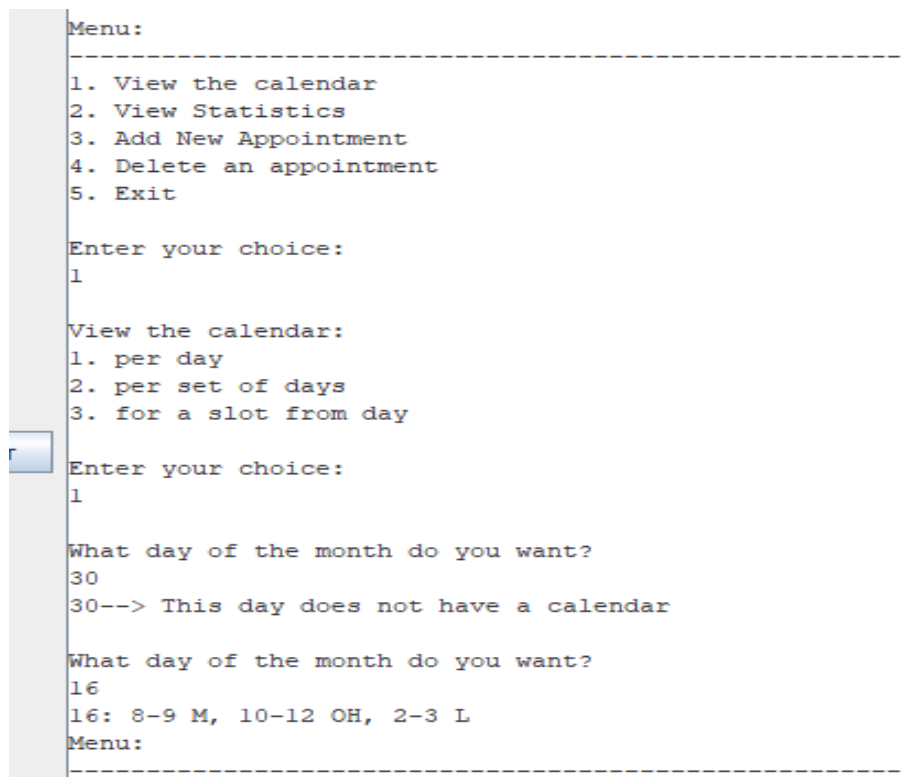
Instructor: Dr. Ayman Hroub- Dr. Aziz Qaroush

Sections: 1-2
December 8, 2023

TestingExample#1

Data File:

```
[≡]     Calendar                                        ×
File     Edit      View

2: 9-10 L, 10-11 M, 12-2 OH
5: 8-9 L, 10-12 OH, 12-2 M
7: 8-9 M, 10-1 OH, 1-4 L
11: 8-9 L, 10-12 OH, 12-2 M
12: 8-10 OH, 10-12 M, 1-3 L
15: 9-10 L, 10-11 M, 12-2 OH
16: 8-9 M, 10-12 OH, 2-3 L
22: 8-10 L, 10-11 M, 1-2 OH
24: 8-9 L, 10-12 OH, 12-2 M
28: 8-9 OH, 9-12 L, 12-2 M
```

Option 1_1:

```
Menu:
---------------------------------------------------
1. View the calendar
2. View Statistics
3. Add New Appointment
4. Delete an appointment
5. Exit

Enter your choice:
1

View the calendar:
1. per day
2. per set of days
3. for a slot from day

Enter your choice:
1

What day of the month do you want?
30
30--> This day does not have a calendar

What day of the month do you want?
16
16: 8-9 M, 10-12 OH, 2-3 L
Menu:
---------------------------------------------------
```

Option1_2

```
Enter your choice:
1

View the calendar:
1. per day
2. per set of days
3. for a slot from day

Enter your choice:
2
Please enter the number of days :
2

What day of the month do you want?
15
15: 9-10 L, 10-11 M, 12-2 OH
What day of the month do you want?
22
22: 8-10 L, 10-11 M, 1-2 OH
Menu:
--------------------------------------------------------
```

Option 1_3

```
Enter your choice:
1

View the calendar:
1. per day
2. per set of days
3. for a slot from day

Enter your choice:
3

What day of the month do you want?
11

Enter the start time for the slot
10

Enter the end time for the slot
1
L   no slot of time in this Range
OH 10-12
M 12-13
```

Option 2_1

```
Menu:
-------------------------------------------------------
1. View the calendar
2. View Statistics
3. Add New Appointment
4. Delete an appointment
5. Exit

Enter your choice:
2

1. number of lectures (in hours)
2. number of OH (in hours)
3. the number of Meetings (in hour)
4. average lectures per day
5.the ratio between number of lectures (in hours) and number of OH (in hours)
1

 Number of lectures (in hours) =  16

Menu:
```

Option 2_2

```
Menu:
-------------------------------------------------------
1. View the calendar
2. View Statistics
3. Add New Appointment
4. Delete an appointment
5. Exit

Enter your choice:
2

1. number of lectures (in hours)
2. number of OH (in hours)
3. the number of Meetings (in hour)
4. average lectures per day
5.the ratio between number of lectures (in hours) and number of OH (in hours)
2

 Number of Office Hours (in hours) = 20
```

Option 2_3

```
Enter your choice:
2

1. number of lectures (in hours)
2. number of OH (in hours)
3. the number of Meetings (in hour)
4. average lectures per day
5.the ratio between number of lectures (in hours) and number of OH (in hours)
3


 Number of Meetings (in hours) = 15

Menu:
```

Option 2_4:

```
Enter your choice:
2

1. number of lectures (in hours)
2. number of OH (in hours)
3. the number of Meetings (in hour)
4. average lectures per day
5.the ratio between number of lectures (in hours) and number of OH (in hours)
4


 Average lectures per day = 1.6
Menu:
```

Option 2_5

```
Menu:
----------------------------------------------------
1. View the calendar
2. View Statistics
3. Add New Appointment
4. Delete an appointment
5. Exit

Enter your choice:
2

1. number of lectures (in hours)
2. number of OH (in hours)
3. the number of Meetings (in hour)
4. average lectures per day
5.the ratio between number of lectures (in hours) and number of OH (in hours)
5


Ratio between total number of hours reserved for lectures and the total number of hours reserved OH = 0.8
```

Option 3

```
Enter your choice:
3

What day of the month do you want?
29
--> This day does not have a calendar

Enter the start time for the slot
9

Enter the end time for the slot
10

Enter the type of appointment:
1: Lectures
2: Office Hours
3: Meetings
Your choice: 1

Menu:
--------------------------------------------------------
```
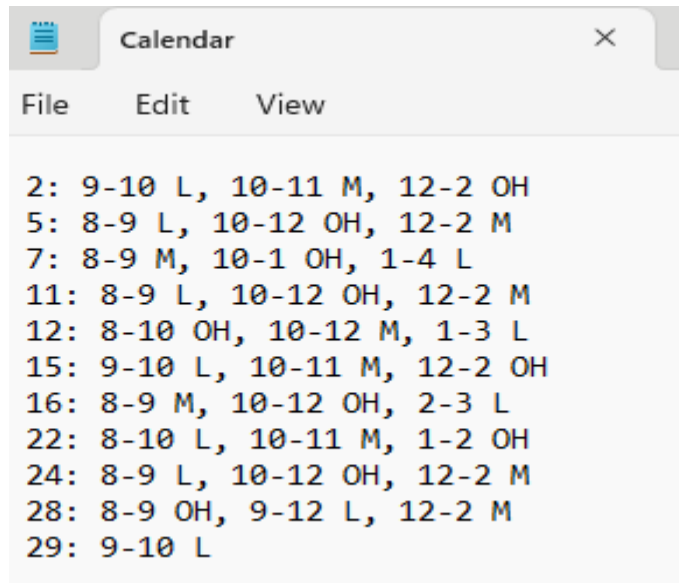
The File After Adding:

```
Calendar                          ×

File    Edit    View

2: 9-10 L, 10-11 M, 12-2 OH
5: 8-9 L, 10-12 OH, 12-2 M
7: 8-9 M, 10-1 OH, 1-4 L
11: 8-9 L, 10-12 OH, 12-2 M
12: 8-10 OH, 10-12 M, 1-3 L
15: 9-10 L, 10-11 M, 12-2 OH
16: 8-9 M, 10-12 OH, 2-3 L
22: 8-10 L, 10-11 M, 1-2 OH
24: 8-9 L, 10-12 OH, 12-2 M
28: 8-9 OH, 9-12 L, 12-2 M
29: 9-10 L
```

Also Traying adding in existing day:

```
What day of the month do you want?
12

Enter the start time for the slot
10

Enter the end time for the slot
11

Enter the type of appointment:
1: Lectures
2: Office Hours
3: Meetings
Your choice: 1

There are a conflict withe this appointment :
10-12M
Enter the start time for the slot
12

Enter the end time for the slot
1

Enter the type of appointment:
1: Lectures
2: Office Hours
3: Meetings
Your choice: 2


Menu:
-----------------------------------------------------
```
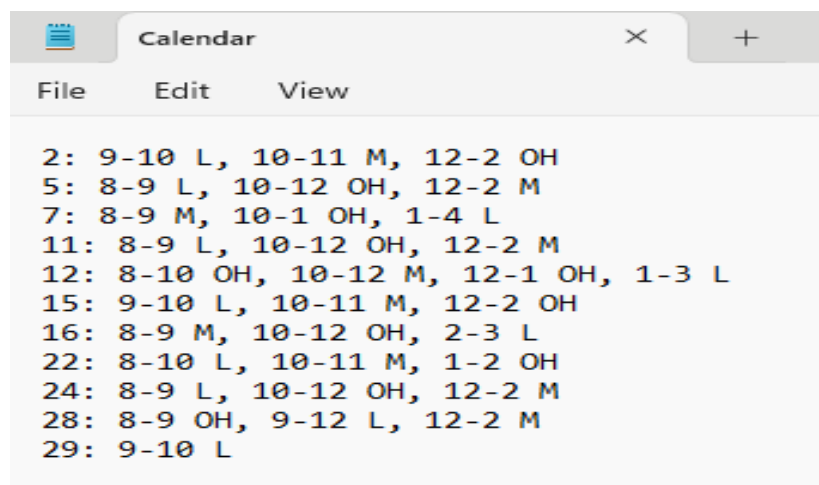
The File After Adding:

Calendar

File   Edit   View

```
2: 9-10 L, 10-11 M, 12-2 OH
5: 8-9 L, 10-12 OH, 12-2 M
7: 8-9 M, 10-1 OH, 1-4 L
11: 8-9 L, 10-12 OH, 12-2 M
12: 8-10 OH, 10-12 M, 12-1 OH, 1-3 L
15: 9-10 L, 10-11 M, 12-2 OH
16: 8-9 M, 10-12 OH, 2-3 L
22: 8-10 L, 10-11 M, 1-2 OH
24: 8-9 L, 10-12 OH, 12-2 M
28: 8-9 OH, 9-12 L, 12-2 M
29: 9-10 L
```

Option 4:

➤ Delete Period not exist in This Day Calendar:

```
Enter your choice:
4

What day of the month do you want?
11

Enter the start time for the slot
9

Enter the end time for the slot
10

Enter the type of appointment:
1: Lectures
2: Office Hours
3: Meetings
Your choice: 1

Try another Period
```

➤ Delete For Exist Slot:

```
Try another Period

What day of the month do you want?
11

Enter the start time for the slot
10

Enter the end time for the slot
1

Enter the type of appointment:
1: Lectures
2: Office Hours
3: Meetings
Your choice: 2


Menu:
-----------------------------------------------------------
```
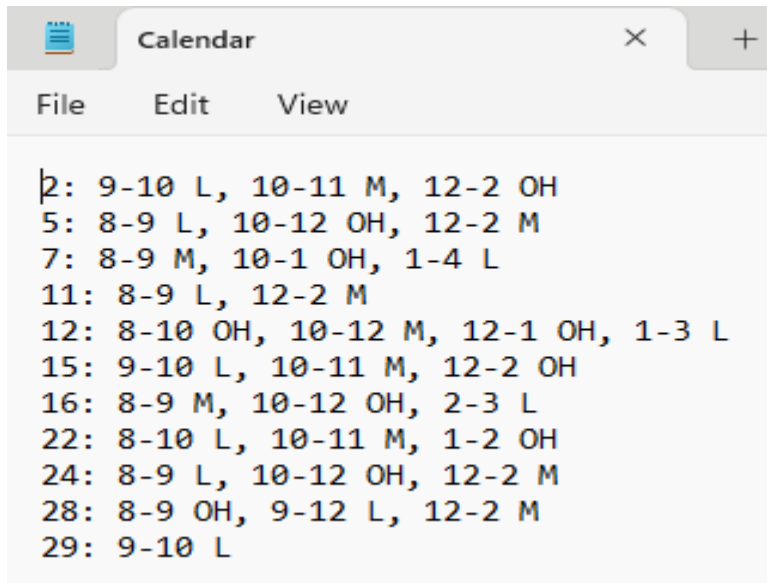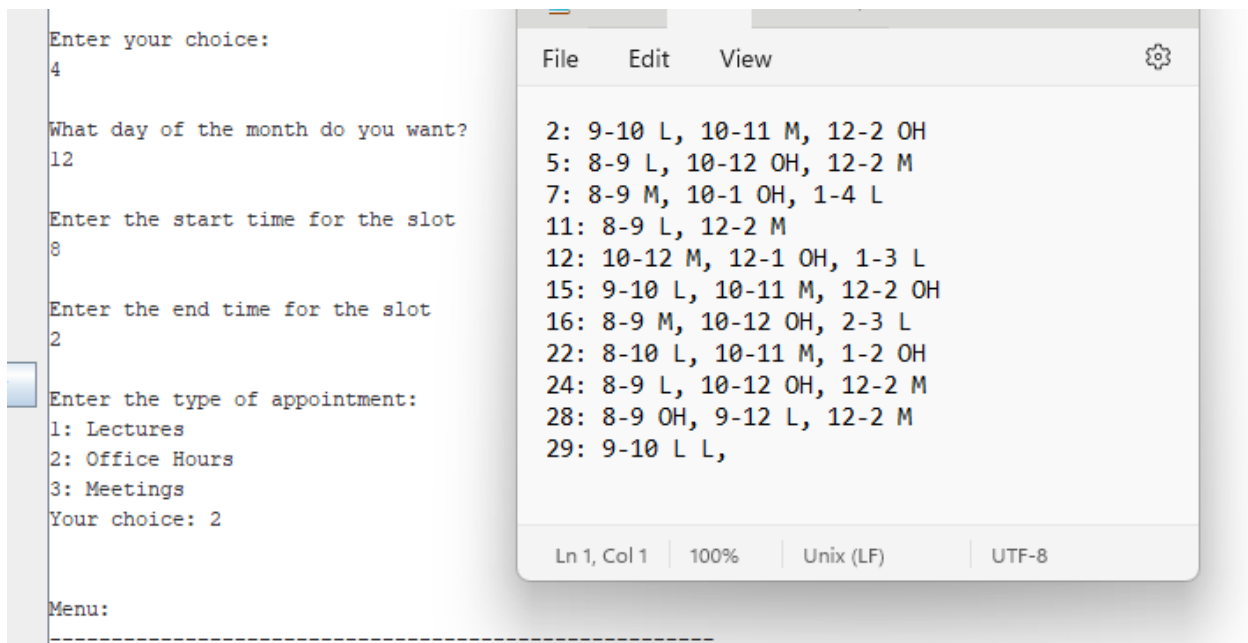
File after delete:

```
Calendar                              ×      +

File    Edit    View

2: 9-10 L, 10-11 M, 12-2 OH
5: 8-9 L, 10-12 OH, 12-2 M
7: 8-9 M, 10-1 OH, 1-4 L
11: 8-9 L, 12-2 M
12: 8-10 OH, 10-12 M, 12-1 OH, 1-3 L
15: 9-10 L, 10-11 M, 12-2 OH
16: 8-9 M, 10-12 OH, 2-3 L
22: 8-10 L, 10-11 M, 1-2 OH
24: 8-9 L, 10-12 OH, 12-2 M
28: 8-9 OH, 9-12 L, 12-2 M
29: 9-10 L
```

➤ Delete The First Appointment (if there are two slots of the same type, the program will delete the first one)
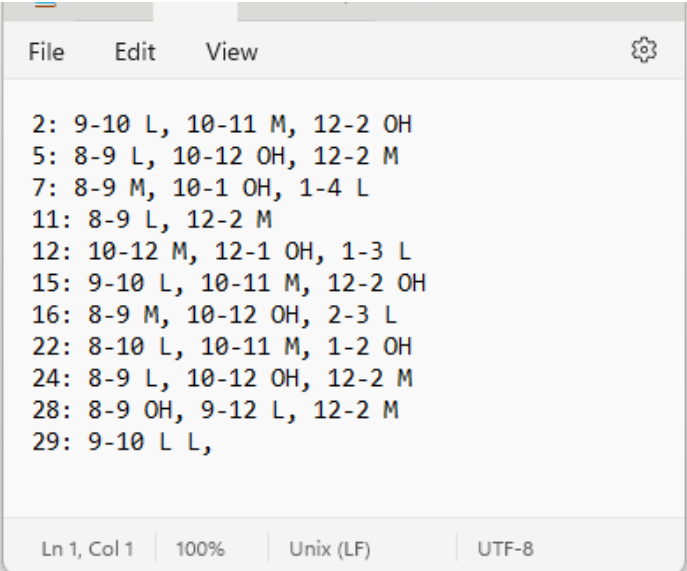
```
Enter your choice:
4

What day of the month do you want?
12

Enter the start time for the slot
8

Enter the end time for the slot
2

Enter the type of appointment:
1: Lectures
2: Office Hours
3: Meetings
Your choice: 2

Menu:
-----------------------------------------------
```
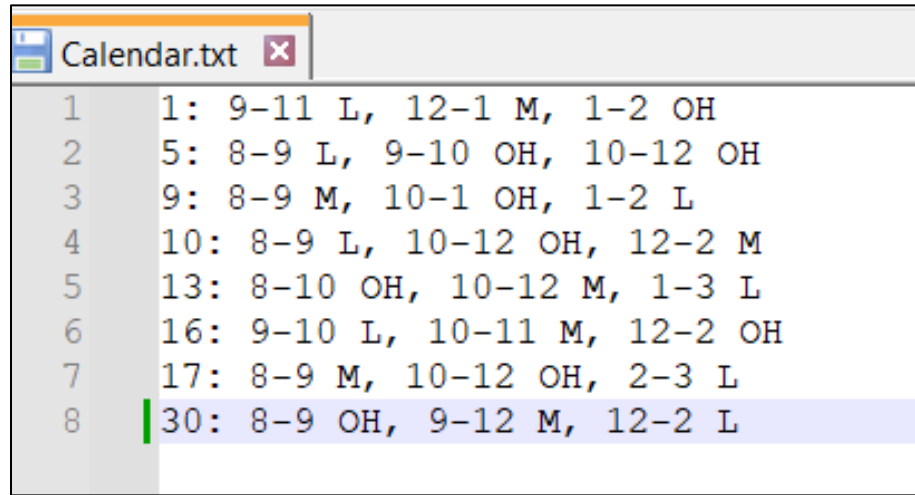
```
File    Edit    View                              ⚙

2: 9-10 L, 10-11 M, 12-2 OH
5: 8-9 L, 10-12 OH, 12-2 M
7: 8-9 M, 10-1 OH, 1-4 L
11: 8-9 L, 12-2 M
12: 10-12 M, 12-1 OH, 1-3 L
15: 9-10 L, 10-11 M, 12-2 OH
16: 8-9 M, 10-12 OH, 2-3 L
22: 8-10 L, 10-11 M, 1-2 OH
24: 8-9 L, 10-12 OH, 12-2 M
28: 8-9 OH, 9-12 L, 12-2 M
29: 9-10 L L,

Ln 1, Col 1    100%    Unix (LF)    UTF-8
```

TestingExample#2

When the Data :

```
Calendar.txt  ☒
1     1: 9-11 L,  12-1 M,  1-2 OH
2     5: 8-9 L,  9-10 OH,  10-12 OH
3     9: 8-9 M,  10-1 OH,  1-2 L
4     10: 8-9 L,  10-12 OH,  12-2 M
5     13: 8-10 OH,  10-12 M,  1-3 L
6     16: 9-10 L,  10-11 M,  12-2 OH
7     17: 8-9 M,  10-12 OH,  2-3 L
8    |30: 8-9 OH,  9-12 M,  12-2 L
```

Option 1_1

```
Menu:
-----------------------------------------------------
1. View the calendar
2. View Statistics
3. Add New Appointment
4. Delete an appointment
5. Exit

Enter your choice:
1

View the calendar:
1. per day
2. per set of days
3. for a slot from day

Enter your choice:
1

What day of the month do you want?
2
2--> This day does not have a calendar

What day of the month do you want?
1
1: 9-11 L,  12-1 M,  1-2 OH
Menu:
```

Option 1_2

```
Menu:
----------------------------------------------------
1. View the calendar
2. View Statistics
3. Add New Appointment
4. Delete an appointment
5. Exit

Enter your choice:
1

View the calendar:
1. per day
2. per set of days
3. for a slot from day

Enter your choice:
2
Please enter the number of days :
3

What day of the month do you want?
4
4--> This day does not have a calendar

What day of the month do you want?
1
1: 9-11 L, 12-1 M, 1-2 OH
What day of the month do you want?
17
17: 8-9 M, 10-12 OH, 2-3 L
What day of the month do you want?
30
30: 8-9 OH, 9-12 M, 12-2 L
Menu:
```

Option 1_3

```
Menu:
-------------------------------------------------------
1. View the calendar
2. View Statistics
3. Add New Appointment
4. Delete an appointment
5. Exit

Enter your choice:
1

View the calendar:
1. per day
2. per set of days
3. for a slot from day

Enter your choice:
3

What day of the month do you want?
10

Enter the start time for the slot
10

Enter the end time for the slot
12
L  no slot of time in this Range
OH 10-12
M  no slot of time in this Range

Menu:
```

Option 2_1:

```
Menu:
----------------------------------------------------
1. View the calendar
2. View Statistics
3. Add New Appointment
4. Delete an appointment
5. Exit

Enter your choice:
2

1. number of lectures (in hours)
2. number of OH (in hours)
3. the number of Meetings (in hour)
4. average lectures per day
5.the ratio between number of lectures (in hours) and number of OH (in hours)
1

  Number of lectures (in hours) =   11

Menu:
```

Option 2_2

```
Menu:
----------------------------------------------------
1. View the calendar
2. View Statistics
3. Add New Appointment
4. Delete an appointment
5. Exit

Enter your choice:
2

1. number of lectures (in hours)
2. number of OH (in hours)
3. the number of Meetings (in hour)
4. average lectures per day
5.the ratio between number of lectures (in hours) and number of OH (in hours)
2

  Number of Office Hours (in hours) = 16

Menu:
```

Option 2_3

```
Menu:
-----------------------------------------------------
1. View the calendar
2. View Statistics
3. Add New Appointment
4. Delete an appointment
5. Exit

Enter your choice:
2

1. number of lectures (in hours)
2. number of OH (in hours)
3. the number of Meetings (in hour)
4. average lectures per day
5.the ratio between number of lectures (in hours) and number of OH (in hours)
3


 Number of Meetings (in hours) = 11

Menu:
```

Option 2_4

```
Menu:
-------------------------------------------------
1. View the calendar
2. View Statistics
3. Add New Appointment
4. Delete an appointment
5. Exit

Enter your choice:
2

1. number of lectures (in hours)
2. number of OH (in hours)
3. the number of Meetings (in hour)
4. average lectures per day
5.the ratio between number of lectures (in hours) and number of OH (in hours)
4


 Average lectures per day = 1.375
Menu:
```

Option 2_5

```
Menu:
----------------------------------------------------
1. View the calendar
2. View Statistics
3. Add New Appointment
4. Delete an appointment
5. Exit

Enter your choice:
2

1. number of lectures (in hours)
2. number of OH (in hours)
3. the number of Meetings (in hour)
4. average lectures per day
5.the ratio between number of lectures (in hours) and number of OH (in hours)
5

Ratio between total number of hours reserved for lectures and the total number of hours reserved OH = 0.6875
Menu:
```

Option 3:

```
Menu:
------------------------------------------------------
1. View the calendar
2. View Statistics
3. Add New Appointment
4. Delete an appointment
5. Exit

Enter your choice:
3

What day of the month do you want?
13

Enter the start time for the slot
12

Enter the end time for the slot
1

Enter the type of appointment:
1: Lectures
2: Office Hours
3: Meetings
Your choice: 2


Menu:
```

Data After:

```
Calendar.txt  ☒
  1      1: 9-11 L, 12-1 M, 1-2 OH
  2      5: 8-9 L, 9-10 OH, 10-12 OH
  3      9: 8-9 M, 10-1 OH, 1-2 L
  4      10: 8-9 L, 10-12 OH, 12-2 M
  5      13: 8-10 OH, 10-12 M, 12-1 OH, 1-3 L
  6      16: 9-10 L, 10-11 M, 12-2 OH
  7      17: 8-9 M, 10-12 OH, 2-3 L
  8      30: 8-9 OH, 9-12 M, 12-2 L
```

Option 4:

When remove from day does not exist:

```
Menu:
---------------------------------------------------------
1. View the calendar
2. View Statistics
3. Add New Appointment
4. Delete an appointment
5. Exit

Enter your choice:
4

What day of the month do you want?
2

Enter the start time for the slot
2

Enter the end time for the slot
3

Enter the type of appointment:
1: Lectures
2: Office Hours
3: Meetings
Your choice: 2
--> This day does not have a calendar

Menu:
```

From day exist:

```
Menu:
-------------------------------------------------------
1. View the calendar
2. View Statistics
3. Add New Appointment
4. Delete an appointment
5. Exit

Enter your choice:
4

What day of the month do you want?
17

Enter the start time for the slot
10

Enter the end time for the slot
12

Enter the type of appointment:
1: Lectures
2: Office Hours
3: Meetings
Your choice: 2
```

After Remove:

Calendar.txt ☒

```
1    1: 9-11 L,  12-1 M,  1-2 OH
2    5: 8-9 L,  9-10 OH,  10-12 OH
3    9: 8-9 M,  10-1 OH,  1-2 L
4    10: 8-9 L,  10-12 OH,  12-2 M
5    13: 8-10 OH,  10-12 M,  12-1 OH,  1-3 L
6    16: 9-10 L,  10-11 M,  12-2 OH
7    17: 8-9 M,  2-3 L
8    30: 8-9 OH,  9-12 M,  12-2 L,
```

Add appointment in day does not exist in the file

```
Menu:
---------------------------------------------------
1. View the calendar
2. View Statistics
3. Add New Appointment
4. Delete an appointment
5. Exit

Enter your choice:
3

What day of the month do you want?
14
--> This day does not have a calendar

Enter the start time for the slot
1

Enter the end time for the slot
2

Enter the type of appointment:
1: Lectures
2: Office Hours
3: Meetings
Your choice: 2
```

Data After :

```
Calendar.txt ☒
1      1: 9-11 L, 12-1 M, 1-2 OH
2      5: 8-9 L, 9-10 OH, 10-12 OH
3      9: 8-9 M, 10-1 OH, 1-2 L
4      10: 8-9 L, 10-12 OH, 12-2 M
5      13: 8-10 OH, 10-12 M, 12-1 OH, 1-3 L
6      16: 9-10 L, 10-11 M, 12-2 OH
7      17: 8-9 M, 2-3 L
8      30: 8-9 OH, 9-12 M, 12-2 L
9      14: 1-2 OH
```

Calculate the number of Office Hours After add appointment :

```
Menu:
-------------------------------------------------
1. View the calendar
2. View Statistics
3. Add New Appointment
4. Delete an appointment
5. Exit

Enter your choice:
2

1. number of lectures (in hours)
2. number of OH (in hours)
3. the number of Meetings (in hour)
4. average lectures per day
5.the ratio between number of lectures (in hours) and number of OH (in hours)
2


 Number of Office Hours (in hours) = 16

Menu:
```