Faculty of Engineering and Technology

Department of Electrical and Computer Engineering

ENCS4370

COMPUTER ARCHITECTURE

Project 1

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Calendar Project

In this project, we construct a calendar program that saved in a file, as shown below

Table 1: File before Start Testing

```
1:8-9L,10-12M,1-3OH
2:8-9L,10-12OH,12-3M
3:
4:8-9M,11-2OH
5:4-5M
6:
7:
8:
9:
10:8-9L,2-4M
11:8-9L,10-12OH,2-4M
12:8-9L,10-11OH,3-4M
13:
14:
15:
16:
17:
18:
19:
20:
21:8-9L,10-12OH
22:
23:
24:
25:
26:
27:
28:
29:
30:
31:
```

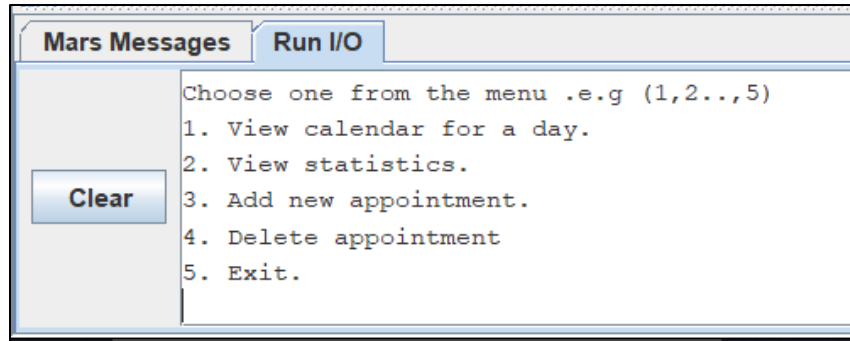The project support view, add and delete options as shown:

Figure 1: Option Menu

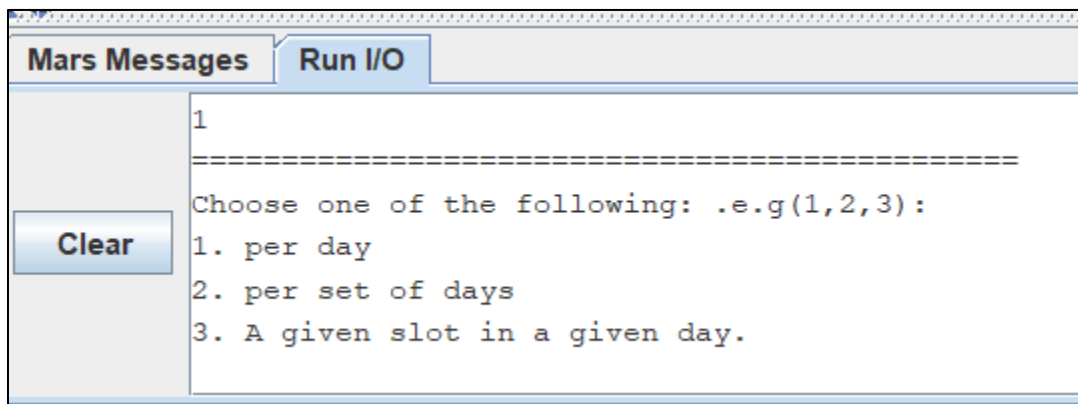## Option One

If we choose option 1, this options will appears

Figure 2: Option 1 Menu

Per day

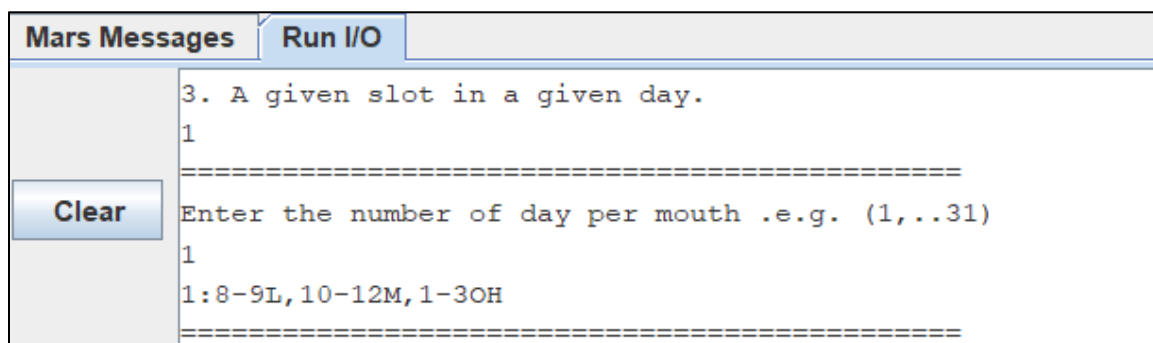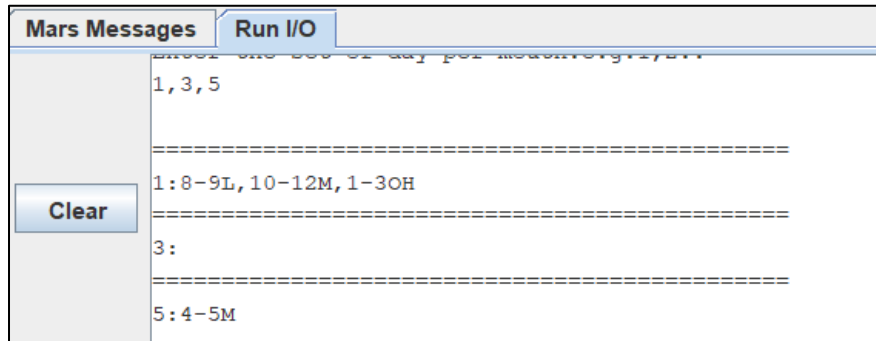For example, if we want to print day number 1, this result will appear:
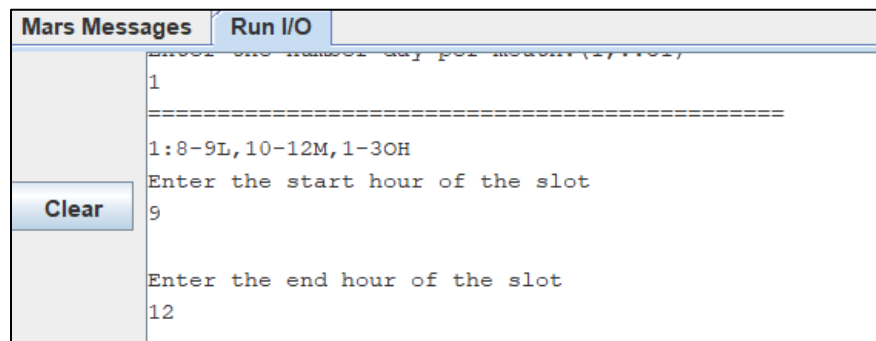

Figure 3: Per Day Result

Per set of days

For example, if we want to print set of day with numbers 1, 3, 5, this result will appear

```
 Mars Messages    Run I/O

                 ----- --- --- -- --- --- -------- -- -- ---
                 1,3,5


          ===============================================
                 1:8-9L,10-12M,1-3OH
  Clear          ===============================================
                 3:
                 ===============================================
                 5:4-5M
```

A given slot in a given day
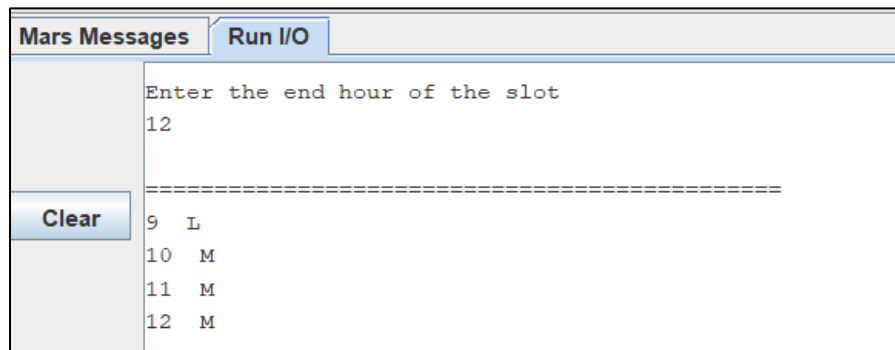
For example if we want to know what we have form [9-12] as shown below.

```
 Mars Messages    Run I/O

                 ----- --- ------ --- ------ -----------
                 1
                 ===============================================
                 1:8-9L,10-12M,1-3OH
                 Enter the start hour of the slot
  Clear          9

                 Enter the end hour of the slot
                 12
```

Figure 4: Option 1: Start and End Hour

This result will appear as expected.

```
 Mars Messages    Run I/O

                 Enter the end hour of the slot
                 12


                 ===============================================
  Clear          9   L
                 10  M
                 11  M
                 12  M
```

Figure 5: Resulted Values

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Option 2

If we choose option 2, this options will appears


```
Mars Messages   Run I/O

              =============================================
              Choose one of the following: .e.g(1,2,3):
    Clear     1. Number of lectures (in Hours)
              2. Number of OH (in Hours)
              3. Number of Meetings (in Hours)
              4. Average of Lectures per day
              5. Ratio between Number of Lectures and Number of OH
```
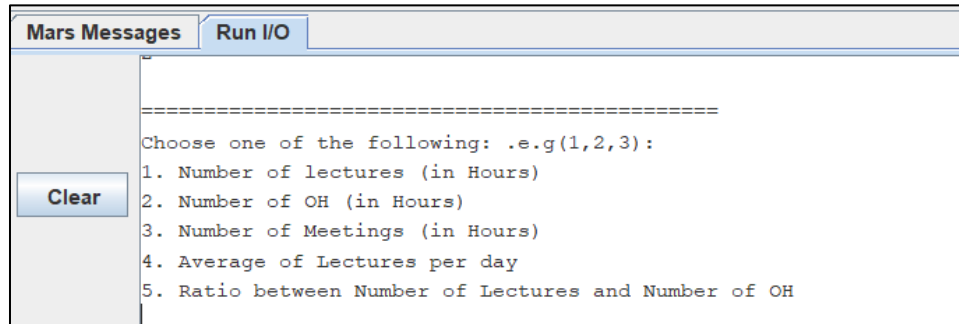
Figure 6: Option 2 Menu

Number of Lectures

Figure7 shows he resulted number of lecture as expected since we have a lecture in these days (1, 2, 10, 11, 12, 21) which shown in Table 1 (File).


```
Mars Messages   Run I/O

              3. Number of Meetings (in Hours)
              4. Average of Lectures per day
              5. Ratio between Number of Lectures and Number of OH
              1
    Clear
              =============================================
              L   6
```
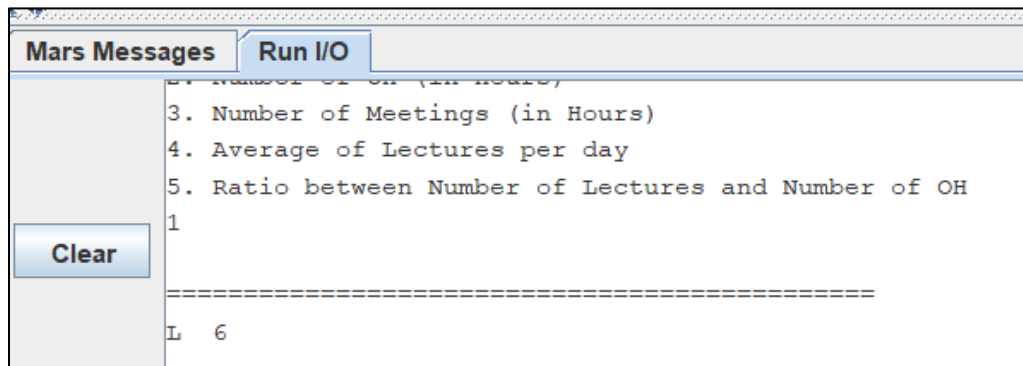
Figure 7: Resulted Value

Number of Office Hour

Figure 8 shows he resulted number of office hours as expected as shown in Table 1 (File).


```
Mars Messages   Run I/O

              2

              =============================================
              OH   12
    Clear
```
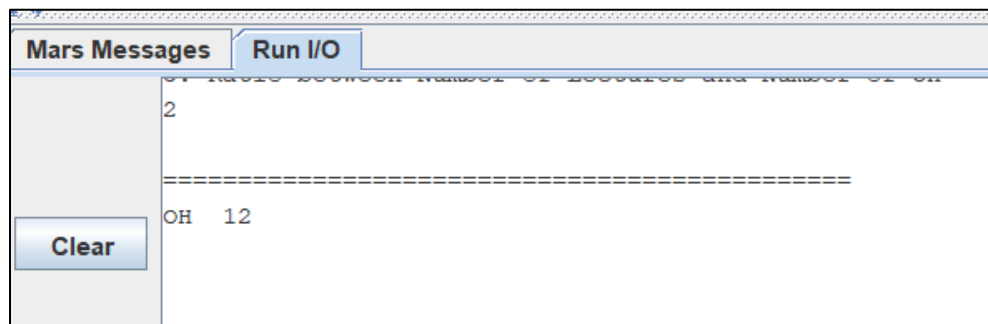
Figure 8: Resulted Value

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Number of Meetings

Figure 9 shows he resulted number of office hours as expected as shown in Table 1 (File).
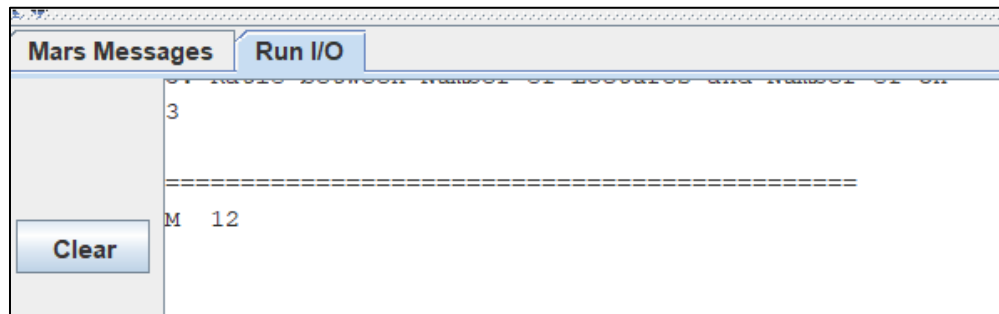

Figure 9: Resulted Value

Average of Lectures per day

Figure 10 shows Average of Lectures per day since we have 8 reserved days and 6 lectures 6/8 = 0.75.
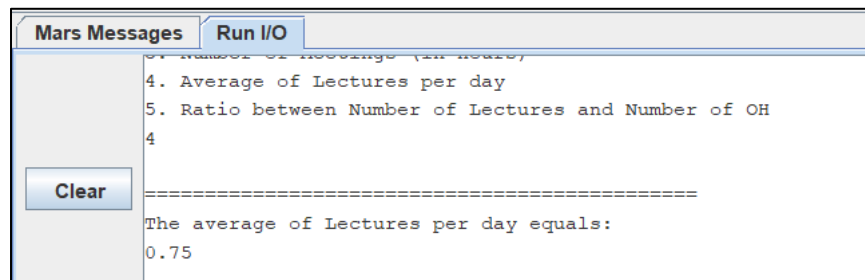

Figure 10: Average of Lectures per day

Ratio between Number of Lectures and Number of OH

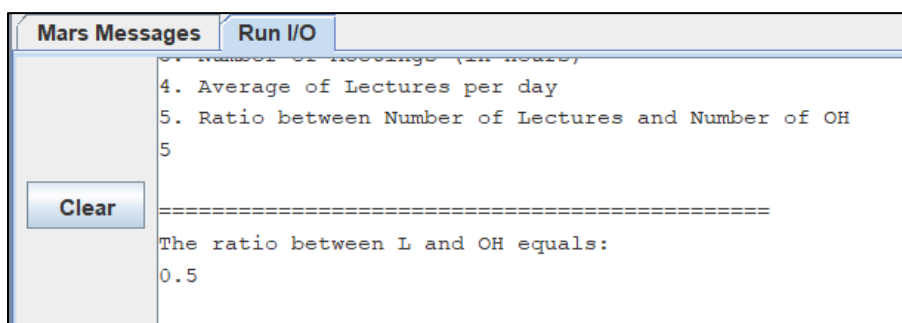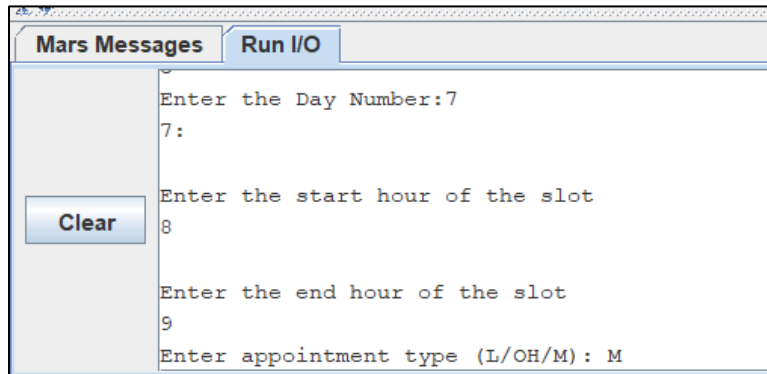Since L=6 and OH=12 then L/OH = 0.5 as shown below.

Figure 11: Ratio between Number of Lectures and Number of OH

Option Three

Add at Empty Day
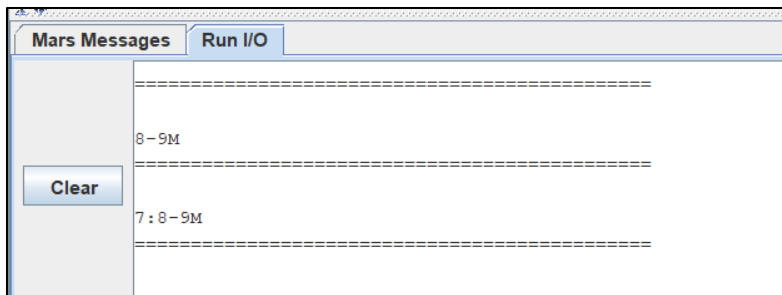
Figure 12 shows the information needed to add 8-9M to empty day (day number 7)

Figure 12: Needed Information

Figure 13: Resulted Day Reservation

Figure 14: Modified Calendar

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Add at Middle

For Example if we want to add 9-10M to day number 2, as shown below

Figure 15: Entered Value at Day number 2

Figure below shows the insertion at middle which successfully happened.

Figure 16: Middle insert

Figure 17: Modified Calendar
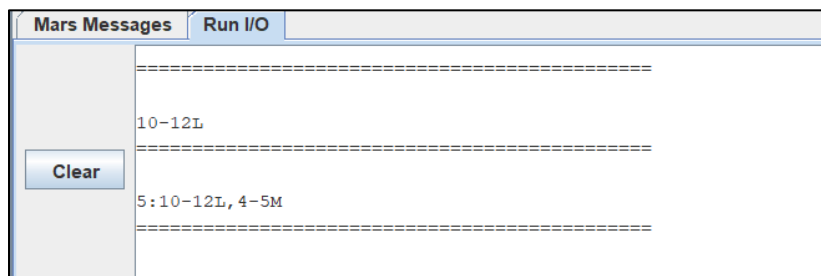
Add at Start

Figure 18 shows the required information to add a new slot 10-12L to day number 5.
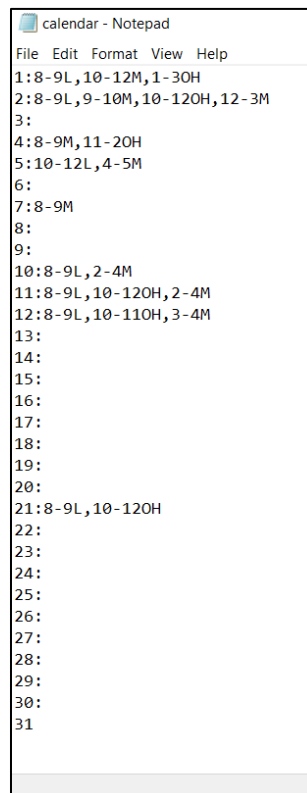
Figure 18: Entered Values at Day number 5

Figure 19: Resulted Reservation Slot

Figure 20: Modified Calendar

Add at End
Figure 21 shows the required information to add a new slot 10-12L to day number 5.

Figure 21: Entered Information of day number 1

Figure 22: Resulted Reservation Slot

Figure 23: Modified Calendar

Conflict

Figure 24 shows a conflict.


```
Mars Messages    Run I/O

                 Enter the Day Number:1
                 2:8-9L,9-10M,10-12OH,12-3M


                 Enter the start hour of the slot

                 8
  Clear

                 Enter the end hour of the slot

                 9
                 Sorry,Conflict is happend
                  Enter the Day Number:
```

Figure 24: Addition Conflict

Option Four

Delete at Start

Figure 25 shows the required information for delete 8-9L slot.


```
Mars Messages    Run I/O

                 Enter the Day Number:1
                 1:8-9L,10-12M,1-3OH,4-5M


                 Enter the start hour of the slot

                 8
  Clear

                 Enter the end hour of the slot

                 9
                 Enter appointment type (L/OH/M): L
```

Figure 25: Required information to delete 8-9L slot


```
Mars Messages    Run I/O

                 Enter the end hour of the slot

                 9
                 Enter appointment type (L/OH/M): L



                 ============================================
  Clear          1:10-12M,1-3OH,4-5M
```
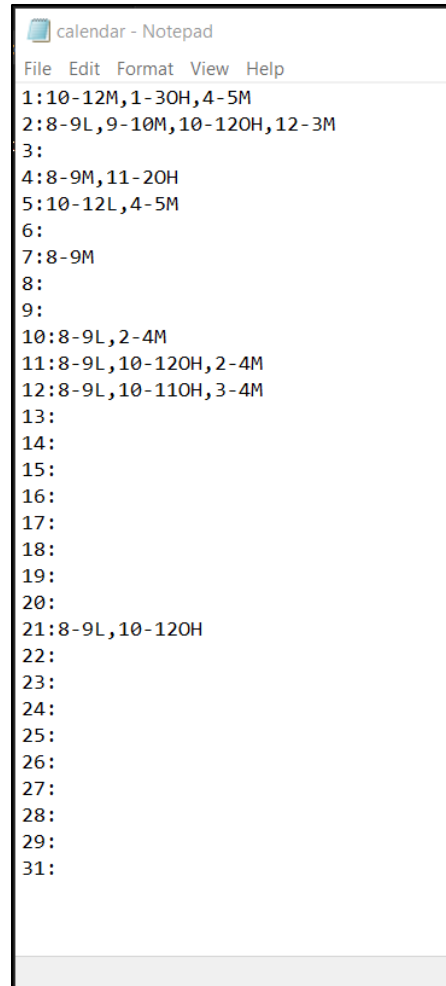
Figure 26: Resulted day Reservation

Figure 27: Modified Calendar

Delete from Empty Day
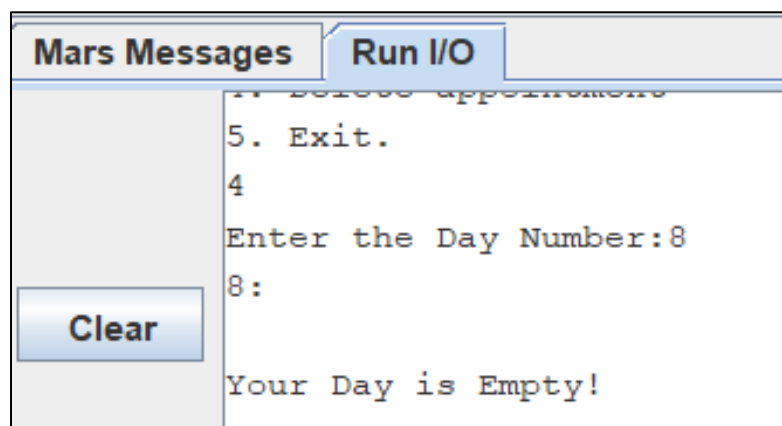
Figure 28 shows the deletion from an empty day.

Figure 28: Delete from Empty Day

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Delete at Middle

Figure 29 shows the required information for delete 10-11OH slot.

Figure 29: Delete Information

Figure 30 shows the deleted slot as expected.

Figure 30: Deleted Slot

Figure 31: Modified Calendar

Delete at End

Figure 32 shows the required information for delete 2-4M slot.

Figure 32: Delete Information

Figure 33: Deleted Slot

Figure 34: Modified Calendar

Conflict

Figure 36 shows a delete conflict.

Figure 35: Delete Conflict

Note that the day reservation is still the same as shown below.

Figure 36: No Change in Conflict

Option 5

Figure 37: Exit