

```
Microsoft Visual Studio Debug Console

Name: Ayman
Age: 9005
Id: 40
appointments:
hrs: 2
mins: 0
hrs: 5
mins: 30
hrs: 3
mins: 0

Name: Khaled
Age: 9006
Id: 25
appointments:
hrs: 0
mins: 5
hrs: 7
mins: 15
hrs: 0
mins: 15

Name: Mai
Age: 9007
Id: 35
appointments:
hrs: 16
mins: 0
hrs: 8
mins: 30
hrs: 6
mins: 30
```

This is the output of the mechanics information after I input it from the file to check if the information is correct.

```
Microsoft Visual Studio Debug Console

Ahmed hass appointmnet at 1:00 with noName of id 0
Sara hass appointmnet at 4:00 with noName of id 0
Kareem hass appointmnet at 3:00 with noName of id 0
Mohamed hass appointmnet at 1:00 with noName of id 0
```

This is the output of the of the customers after I input it from the file to check if the information is correct.

```
Microsoft Visual Studio Debug Console

Ahmed hass appointmnet at 1:00 with Ayman of id 40
Kareem hass appointmnet at 3:00 with Mai of id 35
Sara hass appointmnet at 4:00 with Khaled of id 25
Mohamed hass appointmnet at 1:00 with Khaled of id 25

C:\Users\abdal\OneDrive\Desktop\assignment\project3\x64\Debug\project3.exe (process 32736) exited with code 0.
Press any key to close this window . . .
```

This is the final output of the program.

When I started the program, I did as follow:

- I created the classes.
  - o The first being person followed by customer then mechanics then the TempQueue
  - o I faced an error which was “undefined error” because I didn’t use the #ifndef, #define and #end if before writing the .h files
- I then created the main to start implementing the program.
- I started by inputting the information using a loop with a fixed range since I have already been given the number of mechanics and customers; however Dr Howaida told me not to assume the number of customer and mechanics and she told me take a loop until the files stops reading so that if the input from the txt files are later changed or appended it could still work.
  - o This has caused me much trouble because I was using a dynamic array of customers and mechanics so this means that I would not be able to append the size of the array so I resorted in creating a temp array in the loop so that I then equate the array of customers to the temporary array. It took many trails since the output was sometimes wrong because I would sometime be out of the scope of the array
- I then started to assign the customers to the mechanics which was nothing but easy
  - o I had to try many time to assign the customers to the mechanics either by inserting the mechanics to a queue and the customers to a queue and then assigning them to each other or just using the indexes of the array
  - o After a couple of more trials, I was able to do it with a couple of if statements I was able to do it.
  - o Lastly the isAvailabe function was mad to check if the hrs and mins that the customer wants are available in the mechanic’s array if no then the customer is assigned the mechanic and then it append the array of appointment that the mechanic has by using the same method when I input the information form the file
- Lastly I sorted the customers using bubble sort which for some reason didn’t work at first but then worked later on after a couple of changes
- I then ensued the customers
- And then printed and dequeued them from the stack