

The program declares in the main function that we have only 3 mechanics (the assignment statement says it is okay to pre-declare the mechanics in the main, not from the user).

The first screenshot is when there is only 2 customer.

```
Microsoft Visual Studio Debug Console
How many customers are there?
2
Customer Number 1 Please enter your name, ID, and age. Name: Zyad
ID: 1
Age: 25

Welcome to the mechanic shop!! Zyad! choose your appointment time
hour is: 12
minutes is: 30
your chosen appointment time is 12:30
-----
Customer Number 2 Please enter your name, ID, and age. Name: Belal
ID: 2
Age: 36

Welcome to the mechanic shop!! Belal! choose your appointment time
hour is: 5
minutes is: 30
your chosen appointment time is 5:30
-----
Registration done for Belal
-----
Your mechanic info: Name: Ahmed Fikry
Age: 19
ID: 324
Appointment is at: 5:30
-----
Registration done for Zyad
-----
Your mechanic info: Name: Noor Hassan
Age: 20
ID: 11
Appointment is at: 12:30
-----

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Press any key to close this window . . .
```

Throughout the program, I take the number and date of customers from the user and then the program does the rest of distributing the customers on the available 3 mechanics perfectly as the assignment requires. When there are 2 customers, they get matched with the first 2 mechanics, they are printed based on the earlier the first printed, and the customers' mechanic name, ID, and age are printed as well.

When there are 4 customers. Two screenshots next two pages

Microsoft Visual Studio Debug Console

How many customers are there?

4

Customer Number 1 Please enter your name, ID, and age. Name: Zyad

ID: 1

Age: 24

Welcome to the mechanic shop!! Zyad! choose your appointment time

hour is: 12

minutes is: 30

your chosen appointment time is 12:30

Customer Number 2 Please enter your name, ID, and age. Name: Dina

ID: 2

Age: 33

Welcome to the mechanic shop!! Dina! choose your appointment time

hour is: 9

minutes is: 30

your chosen appointment time is 9:30

Customer Number 3 Please enter your name, ID, and age. Name: Fady

ID: 7

Age: 30

Welcome to the mechanic shop!! Fady! choose your appointment time

hour is: 7

minutes is: 30

your chosen appointment time is 7:30

Customer Number 4 Please enter your name, ID, and age. Name: Malak

ID: 5

Age: 23

Welcome to the mechanic shop!! Malak! choose your appointment time

hour is: 22

minutes is: 10

your chosen appointment time is 22:10

Registration done for Fady

Your mechanic info: Name: Ahmed Fikry

Age: 19

ID: 324



Welcome to the mechanic shop!! Malak! choose your appointment time

hour is: 22

minutes is: 10

your chosen appointment time is 22:10

Registration done for Fady

Your mechanic info: Name: Ahmed Fikry

Age: 19

ID: 324

Appointment is at: 7:30

Registration done for Dina

Your mechanic info: Name: Noor Hassan

Age: 20

ID: 11

Appointment is at: 9:30

Registration done for Zyad

Your mechanic info: Name: Heba Nabil

Age: 18

ID: 298

Appointment is at: 12:30

Registration done for Malak

Your mechanic info: Name: Ahmed Fikry

Age: 19

ID: 324

Appointment is at: 22:10

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Press any key to close this window . . .



As shown in the two screenshots, the first three customers are matched with the first three mechanics and ordered the earlier the first printed. The fourth customer is matched with the first mechanic again as required in the assignment document. The four customers are printed as required. Earliest first assuming the 24-hour system the earliest is 00:00 and the latest is 23:59:59.

The same thing with the previous example but with 5 customers for further demonstration

```
Microsoft Visual Studio Debug Console
How many customers are there?
5
Customer Number 1 Please enter your name, ID, and age. Name: Zyad
ID: 1
Age: 25

Welcome to the mechanic shop!! Zyad! choose your appointment time
hour is: 1
minutes is: 30
your chosen appointment time is 1:30
-----
Customer Number 2 Please enter your name, ID, and age. Name: Hana
ID: 2
Age: 36

Welcome to the mechanic shop!! Hana! choose your appointment time
hour is: 12
minutes is: 30
your chosen appointment time is 12:30
-----
Customer Number 3 Please enter your name, ID, and age. Name: Tamer
ID: 3
Age: 64

Welcome to the mechanic shop!! Tamer! choose your appointment time
hour is: 5
minutes is: 30
your chosen appointment time is 5:30
-----
Customer Number 4 Please enter your name, ID, and age. Name: Belal
ID: 4
Age: 36

Welcome to the mechanic shop!! Belal! choose your appointment time
hour is: 14
minutes is: 25
your chosen appointment time is 14:25
-----
Customer Number 5 Please enter your name, ID, and age. Name: Kamal
ID: 5
Age: 41

Welcome to the mechanic shop!! Kamal! choose your appointment time

-----
Registration done for Zyad
-----
Your mechanic info: Name: Ahmed Fikry
Age: 19
ID: 324
Appointment is at: 1:30
-----
Registration done for Tamer
-----
Your mechanic info: Name: Noor Hassan
Age: 20
ID: 11
Appointment is at: 5:30
-----
Registration done for Hana
-----
Your mechanic info: Name: Heba Nabil
Age: 18
ID: 298
Appointment is at: 12:30
-----
Registration done for Belal
-----
Your mechanic info: Name: Ahmed Fikry
Age: 19
ID: 324
Appointment is at: 14:25
-----
Registration done for Kamal
-----
Your mechanic info: Name: Noor Hassan
Age: 20
ID: 11
Appointment is at: 22:10
-----

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```

Finally, when 4 customers want the same appointment, the first three get with the three mechanics, and the final customer gets a message that there are no mechanics available currently and the program ends.

```
Microsoft Visual Studio Debug Console
How many customers are there?
4
Customer Number 1 Please enter your name, ID, and age. Name: Zyad
ID: 1
Age: 19
Welcome to the mechanic shop!! Zyad! choose your appointment time
hour is: 12
minutes is: 30
your chosen appointment time is 12:30
-----
Customer Number 2 Please enter your name, ID, and age. Name: Belal
ID: 2
Age: 36
Welcome to the mechanic shop!! Belal! choose your appointment time
hour is: 12
minutes is: 30
your chosen appointment time is 12:30
-----
Customer Number 3 Please enter your name, ID, and age. Name: Menna
ID: 3
Age: 29
Welcome to the mechanic shop!! Menna! choose your appointment time
hour is: 12
minutes is: 30
your chosen appointment time is 12:30
-----
Customer Number 4 Please enter your name, ID, and age. Name: Sara
ID: 4
Age: 66
Welcome to the mechanic shop!! Sara! choose your appointment time
hour is: 12
minutes is: 30
your chosen appointment time is 12:30
-----
Registration done for Zyad
-----
Your mechanic info: Name: Ahmed Fikry
Age: 19
ID: 324
-----
Registration done for Belal
-----
Your mechanic info: Name: Noor Hassan
Age: 20
ID: 11
Appointment is at: 12:30
-----
Registration done for Menna
-----
Your mechanic info: Name: Heba Nabil
Age: 18
ID: 298
Appointment is at: 12:30
-----
Sorry !! No available mechanics found for (Sara) Try again later

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Press any key to close this window . . .
```