



Faculty of Engineering
Cairo University



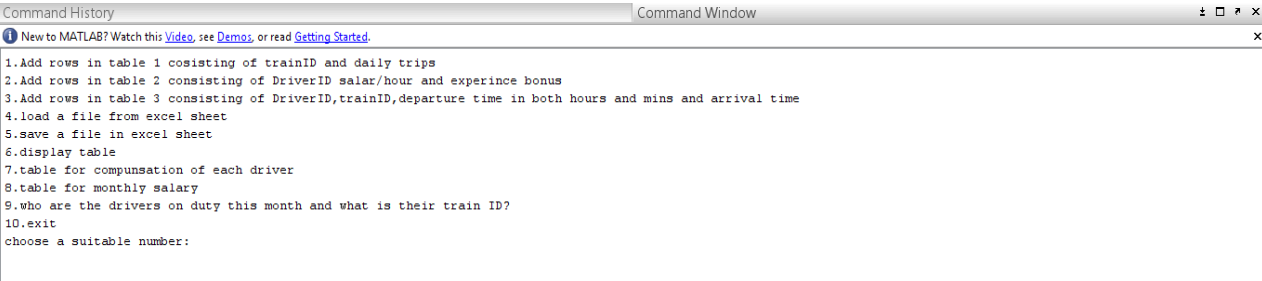
Train Station System

List of figures:

Fig 1-----	3
Fig 2-----	3
Fig 3-----	3
Fig 4-----	4
Fig 5-----	4
Fig 6-----	5
Fig 7-----	5
Fig 8-----	5
Fig 9-----	5
Fig 10-----	6
Fig 11-----	6
Fig 12-----	6
Fig 13-----	7
Fig 14-----	7
Fig 15-----	7
Fig 16-----	8

Fig 17-----	8
Fig 18-----	8
Fig 19-----	9
Fig 20-----	9
Fig 21-----	10
Fig 22-----	10
Fig 23-----	10

My program is a train station system where firstly a main menu from 1 to 10 appears in front of the user and the user has the freedom to either add a row in table1/table2/table3 or load tables the user have already. This system add some variables to the first 3 tables as well as making some calculations in order to aid the user in coordinating train files and IDs and Drivers' files and IDs.



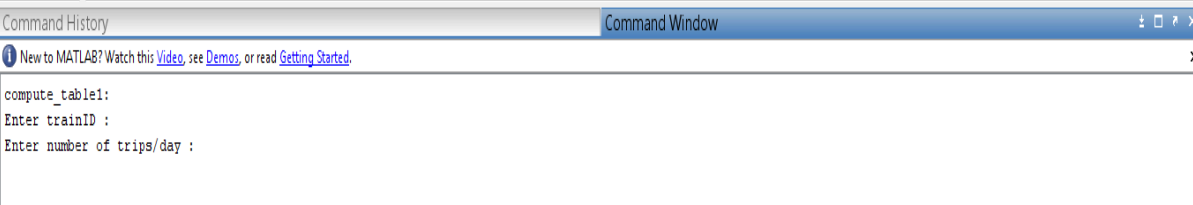
```

Command History | Command Window
1. New to MATLAB? Watch this Video, see Demos, or read Getting Started.
1.Add rows in table 1 consisting of trainID and daily trips
2.Add rows in table 2 consisting of DriverID salar/hour and experince bonus
3.Add rows in table 3 consisting of DriverID,trainID,departure time in both hours and mins and arrival time
4.load a file from excel sheet
5.save a file in excel sheet
6.display table
7.table for compunsation of each driver
8.table for monthly salary
9.who are the drivers on duty this month and what is their train ID?
10.exit
choose a suitable number:

```

Fig 1 shows main-menu that first appears in front of user

So normally I would add a row to the first table so choose number 1, a submenu appears in front of me asking to enter train ID, number of trips per day for the train:

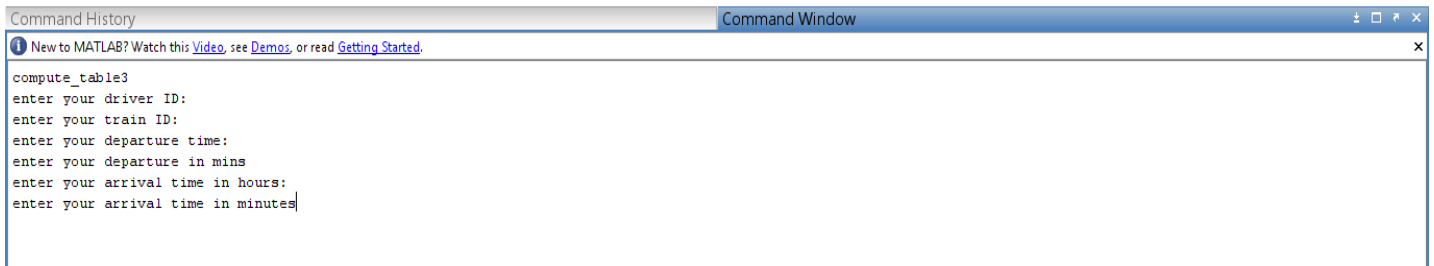


```

Command History | Command Window
1. New to MATLAB? Watch this Video, see Demos, or read Getting Started.
compute_table1:
Enter trainID :
Enter number of trips/day :

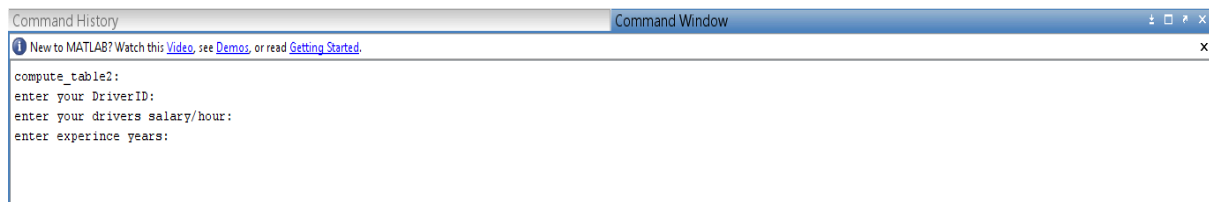
```

Fig 2 shows sub-menu for table 1



```
Command History | Command Window
New to MATLAB? Watch this Video, see Demos, or read Getting Started.
compute_table3
enter your driver ID:
enter your train ID:
enter your departure time:
enter your departure in mins
enter your arrival time in hours:
enter your arrival time in minutes|
```

After adding multiple rows in the first table, I would like to add in the second one. Once I have entered a row in table 1 it returns back to the main menu so I clicked number for multiple times and then I clicked number 2. A menu appeared in front of me asking to enter driver ID, salary/hour and experience years for each driver.



```
Command History | Command Window
New to MATLAB? Watch this Video, see Demos, or read Getting Started.
compute_table2:
enter your DriverID:
enter your drivers salary/hour:
enter experience years:
```

Fig 3 shows sub-menu for table 2

After adding multiple rows as well the same way as table 1 and 2. I would like to table 3 so I write 3 and a sub-menu appears asking to enter driver ID, train ID, departure time in hours, departure time in minutes, arrival time in hours and arrival time in minutes:

fig 4 shows sub-menu for table 3

After enter the 3 tables. I would like to save my tables so I enter number 5 and a menu appear asking which table I would like to save either 1,2,3 and to enter the name of the file that you want to save by in excel sheet and write filename.xlsx

As I user I also have the option to choose number 4 where number 4 adds already existing tables in excel file using xlsread where I write the file name that I want to show **.xlsx and the file should be in the same place as matlab files so that the mat lab can open it.**

On the figure below it asks which table I want to load:

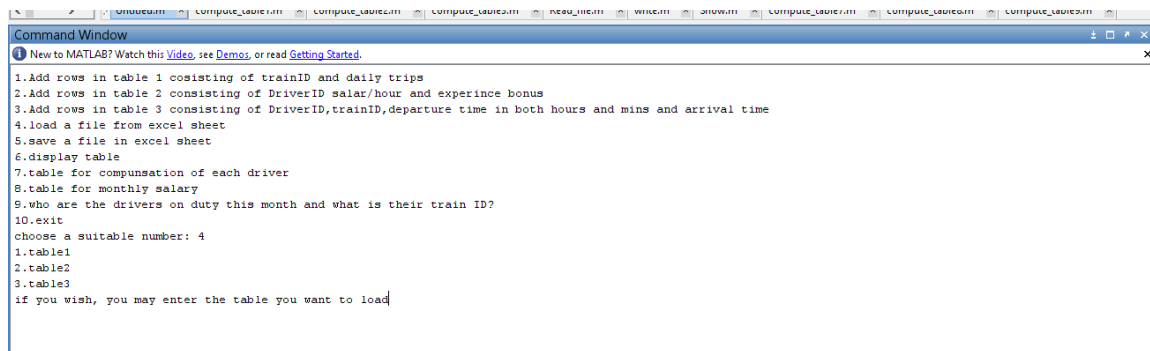


fig 5 shows the sub-menu appearing in front of me when I click on number 4

in the below figure it asks about filename that is already saved:

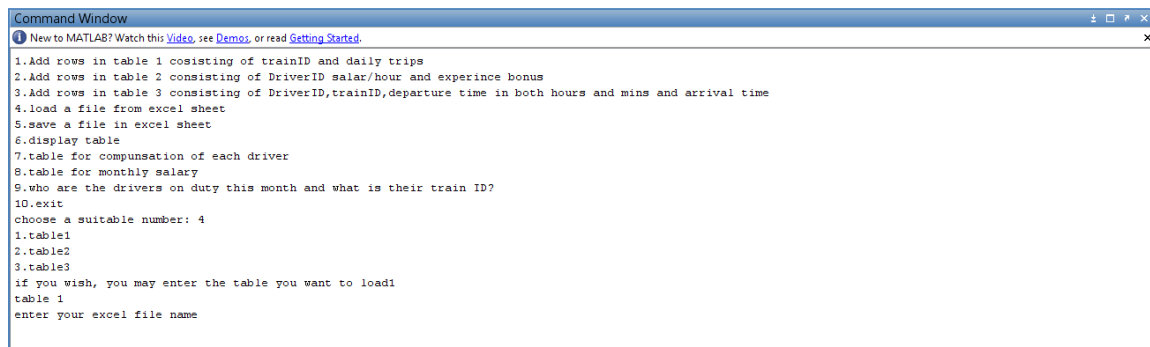


Fig 6 shows rest of sub menu to enter file name

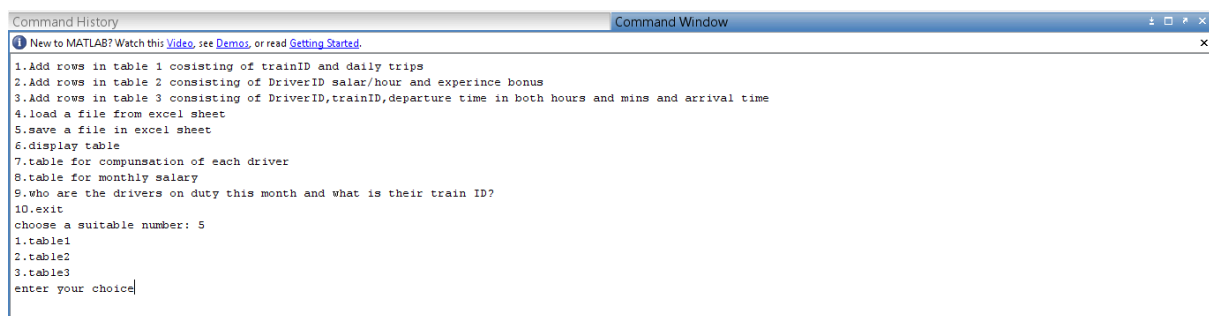


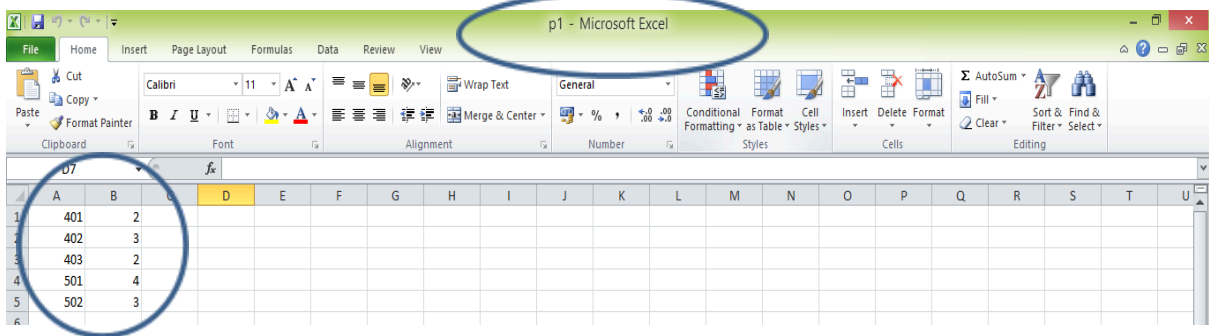
Fig 7 shows sub-menu for table 5 asking user to enter file that you want to save

```

Command History
New to MATLAB? Watch this Video, see Demos, or read Getting Started.
1.Add rows in table 1 consisting of trainID and daily trips
2.Add rows in table 2 consisting of DriverID salar/hour and experince bonus
3.Add rows in table 3 consisting of DriverID,trainID,departure time in both hours and mins and arrival time
4.load a file from excel sheet
5.save a file in excel sheet
6.display table
7.table for compunsation of each driver
8.table for monthly salary
9.who are the drivers on duty this month and what is their train ID?
10.exit
choose a suitable number: 5
1.table1
2.table2
3.table3
enter your choicel
1.table1
enter file name: |

```

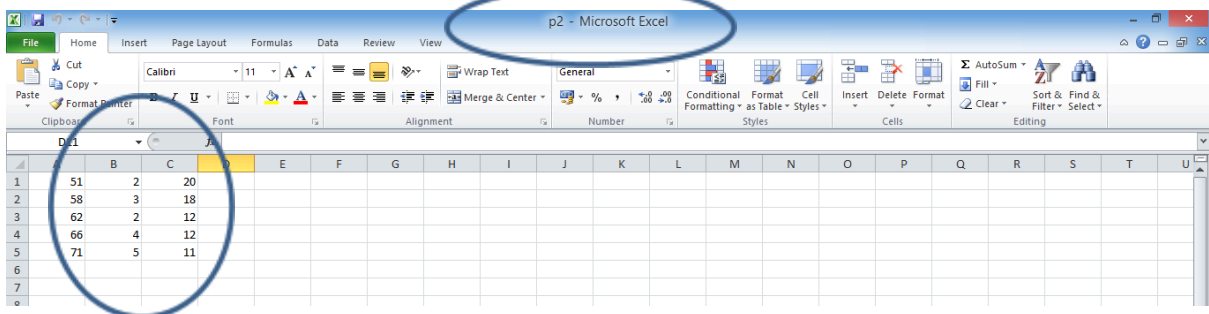
Fig 8 shows sub-menu for table5 asking user to enter file name



	A	B	C
1	401	2	
2	402	3	
3	403	2	
4	501	4	
5	502	3	

Fig 9 shows table 1 in excel sheet

- P1 is name of file that I have named p1.xlsx
- Numbers are table columns



	A	B	C
1	51	2	20
2	58	3	18
3	62	2	12
4	66	4	12
5	71	5	11

Fig 10 shows table 2 in excel sheet



	A	B	C	D	E	F
1	51	401	20	40	1	20
2	58	402	18	45	0	15
3	62	403	12	30	13	45
4	66	501	12	10	14	12
5	71	502	11	15	15	33
6	51	402	2	30	4	20
7	58	403	8	45	12	15
8	62	401	10	30	11	45
9	66	502	8	10	9	12
10	71	501	16	15	18	33
11						
12						

Fig 11 shows table 3 in excel sheet

I can as well display on the matlab screen if I choose 6 from the main menu and I'm asked if I want to display 1/2/3

```

Command History
Command Window
New to MATLAB? Watch this Video, see Demos, or read Getting Started.
to display table1 press 1
to display table 2 press 2
to display table 3 press 3
enter table you want to display
  
```

Fig 12 shows menu asking which table to display

```

Command History
Command Window
New to MATLAB? Watch this Video, see Demos, or read Getting Started.
to display table1 press 1
to display table 2 press 2
to display table 3 press 3
enter table you want to display1
DriverID  dailytrips
401      2
402      3
403      2
501      4
502      3

to display table1 press 1
to display table 2 press 2
to display table 3 press 3
enter table you want to display
  
```

Fig 13 shows example of display for table 1

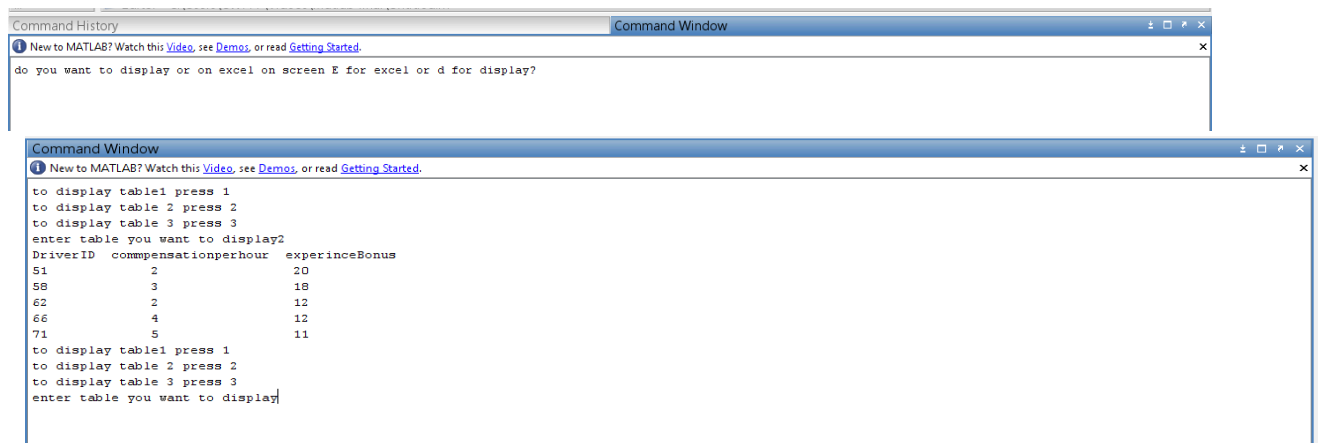


Fig 14 shows example display for table 2

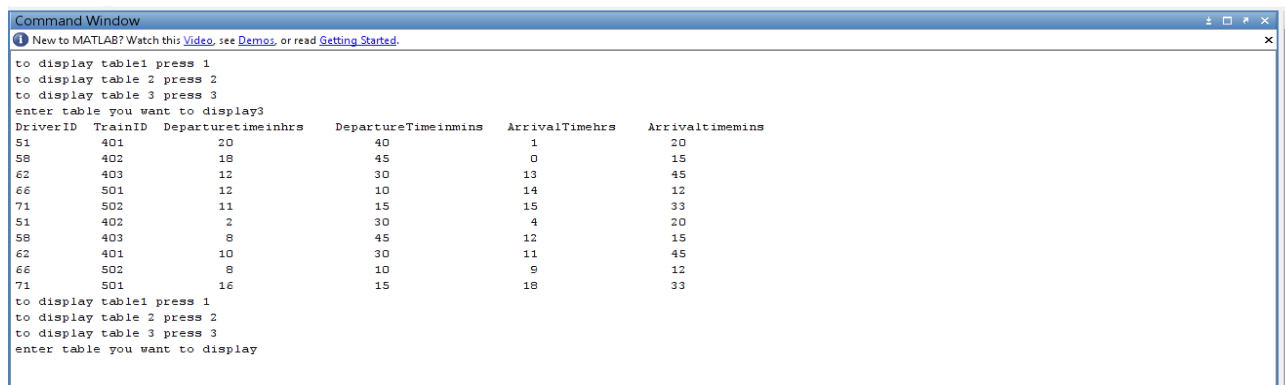


Fig 15 shows example display for table 3

You can't use 7,8,9 unless you have entered table 1,2,3

After entering values in table 1, table2 , table 3. I can choose number 7 to compute table 7 which is calculating number of trips per month for each driver an their compensation per trip

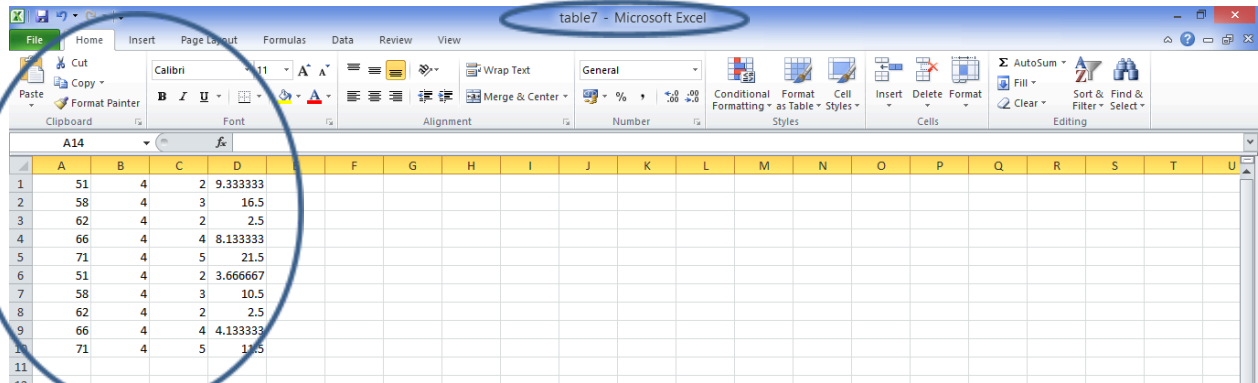
- I assumed that salary per hour in table 2 is compensation per hour in table 7

fig 16 shows the sub-menu that appears in front of me when I click either 7,8,9

if I choose to save in excel file write E and the file will automatically appear in excel file

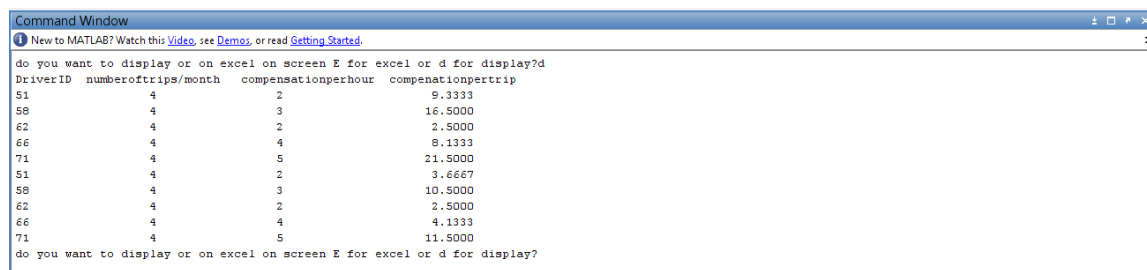
just like this with name table7, table8, table 9:

In table 7, it calculates number of trips per month for each driver shown in column 2 as well as compensation per trip for each driver which is shown below in column 4



	A	B	C	D
1	51	4	2	9.333333
2	58	4	3	16.5
3	62	4	2	2.5
4	66	4	4	8.133333
5	71	4	5	21.5
6	51	4	2	3.666667
7	58	4	3	10.5
8	62	4	2	2.5
9	66	4	4	4.133333
10	71	4	5	11.5

Fig 17 shows table 7 in excel sheet



```

do you want to display or on excel on screen E for excel or d for display?d
DriverID numberoftrips/month compensationperhour compensationpertrip
51 4 2 9.3333
58 4 3 16.5000
62 4 2 2.5000
66 4 4 8.1333
71 4 5 21.5000
51 4 2 3.6667
58 4 3 10.5000
62 4 2 2.5000
66 4 4 4.1333
71 4 5 11.5000
do you want to display or on excel on screen E for excel or d for display?
  
```

Fig 18 shows table 7 in command window

Table 8 and table 9 are the same as well as table 7 and the same menu appears as in fig 10

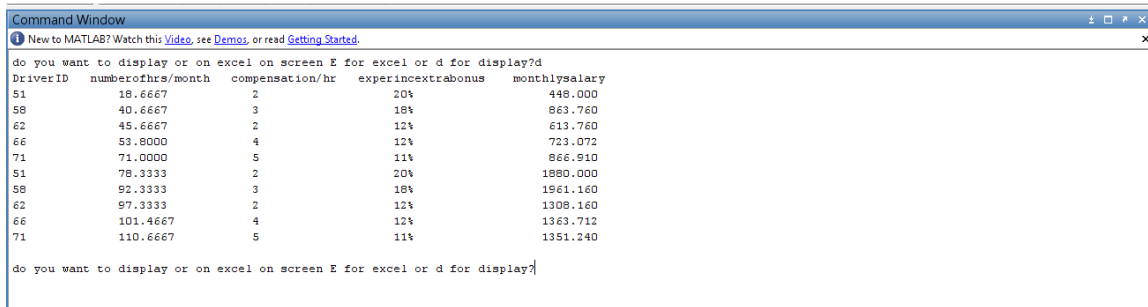
In table 8, it calculates sum of number of hours for each driver during the month and also monthly salary in column 5 for all drivers according to a certain calculation that that is:

- In table 8 I assumed that experience extra bonus in column 3 as experience years in table 2 column 3

Calculation:

In column 5 table8 I calculated it with equation =

(Compensation/hour*number of hours/month*((experience extra bonus /100)+1))



Command Window

New to MATLAB? Watch this [Video](#), see [Demos](#), or read [Getting Started](#).

do you want to display or on excel on screen E for excel or d for display?d

DriverID	numeroofhrs/month	compensation/hr	experincentrabonus	monthllysalary
51	18.6667	2	20%	448.000
58	40.6667	3	18%	863.760
62	45.6667	2	12%	613.760
66	53.8000	4	12%	723.072
71	71.0000	5	11%	866.910
51	78.3333	2	20%	1880.000
58	92.3333	3	18%	1961.160
62	97.3333	2	12%	1308.160
66	101.4667	4	12%	1363.712
71	110.6667	5	11%	1351.240

do you want to display or on excel on screen E for excel or d for display?

Fig 19 shows table 8 in command window

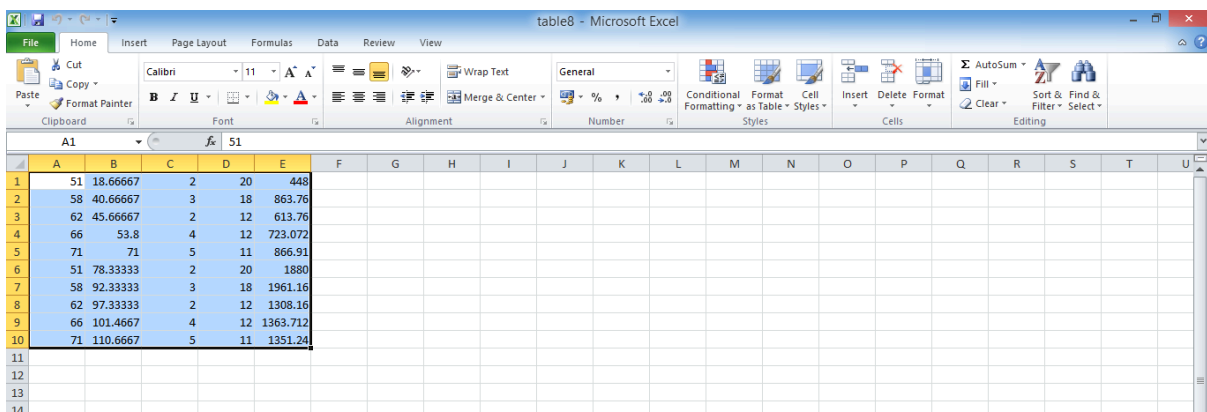


table8 - Microsoft Excel

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	51	18.6667	2	20	448																
2	58	40.6667	3	18	863.76																
3	62	45.6667	2	12	613.76																
4	66	53.8	4	12	723.072																
5	71	71	5	11	866.91																
6	51	78.3333	2	20	1880																
7	58	92.3333	3	18	1961.16																
8	62	97.3333	2	12	1308.16																
9	66	101.4667	4	12	1363.712																
10	71	110.6667	5	11	1351.24																
11																					
12																					
13																					
14																					

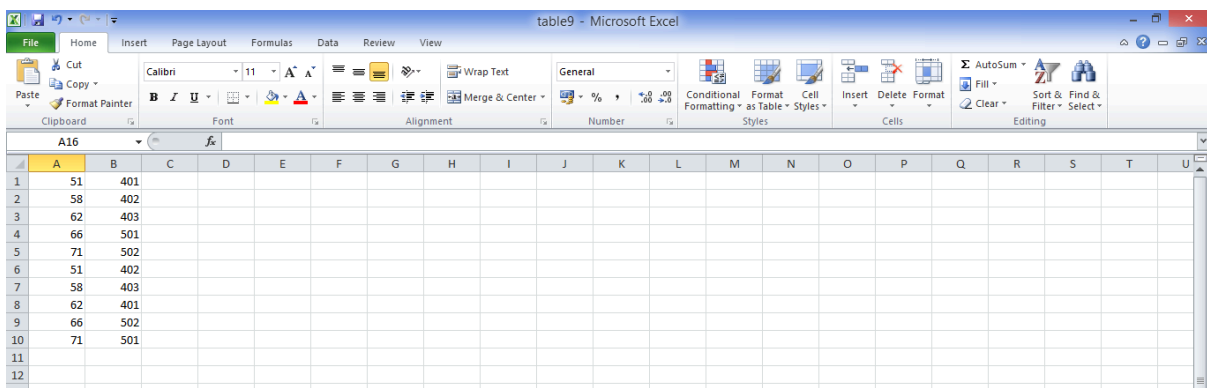
Fig 20 shows table 8 in excel

In table 9. It shows train IDs that each driver rode during the month.

```
Command Window
New to MATLAB? Watch this Video, see Demos, or read Getting Started.

do you want to display or on excel on screen E for excel or d for display?d
DriverID  TrainID
51        401
58        402
62        403
66        501
71        502
51        402
58        403
62        401
66        502
71        501
do you want to display or on excel on screen E for excel or d for display?
```

Fig 21 shows table 9 in command window



The screenshot shows a Microsoft Excel window titled 'table9 - Microsoft Excel'. The data is organized into a table with 10 rows and 2 columns. The first column is labeled 'DriverID' and the second column is labeled 'TrainID'. The data is as follows:

DriverID	TrainID
51	401
58	402
62	403
66	501
71	502
51	402
58	403
62	401
66	502
71	501

Fig 22 shows table 9 in excel file

```
Command Window
New to MATLAB? Watch this Video, see Demos, or read Getting Started.

you have reached to an end
Have a nice day, GoodBye!
>> |
```

Fig 23 shows choice 10 if you clicked on it(exit)