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CB.EN.U4CSE19046
SET B- EVALUATION ONE : COMPUTER NETWORKS
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Topic : Socket programming using TCP-Single client,Single server

Create a file named FoodBill.xls with following details:

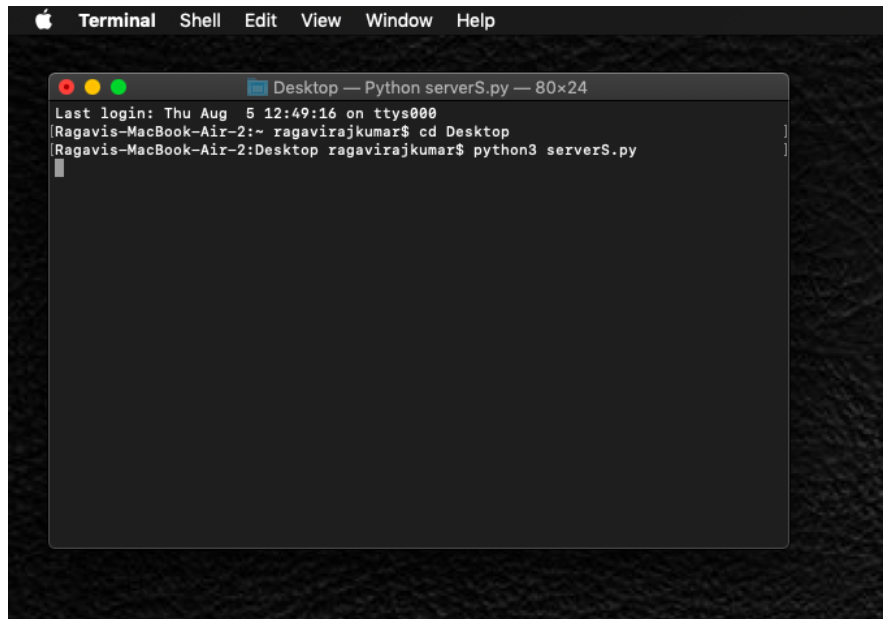
- Date ,foodid ,Category ,Quantity,cost, Totalcost.
- Provide details for 10 food items in the file.
- There can be details for more than one date for a food item.
- The foodid can start with A/D/I/B (ex:D00001)
- There will be a column named Category.

The .csv file :

Foodbill						
Date	FoodId	Category	Quantity	Cost	Totalcost	
1/11/21	A00001		1	90		
3/4/20	D00003		3	345		
9/2/19	I99041		5	23		
3/4/15	B22371		6	54		
7/8/19	D67902		2	65		
6/3/12	I13456		8	87		
6/4/12	I08537		34	12		
9/10/14	A08527		12	65		
8/1/13	A99942		43	78		

Store this program on the server side.

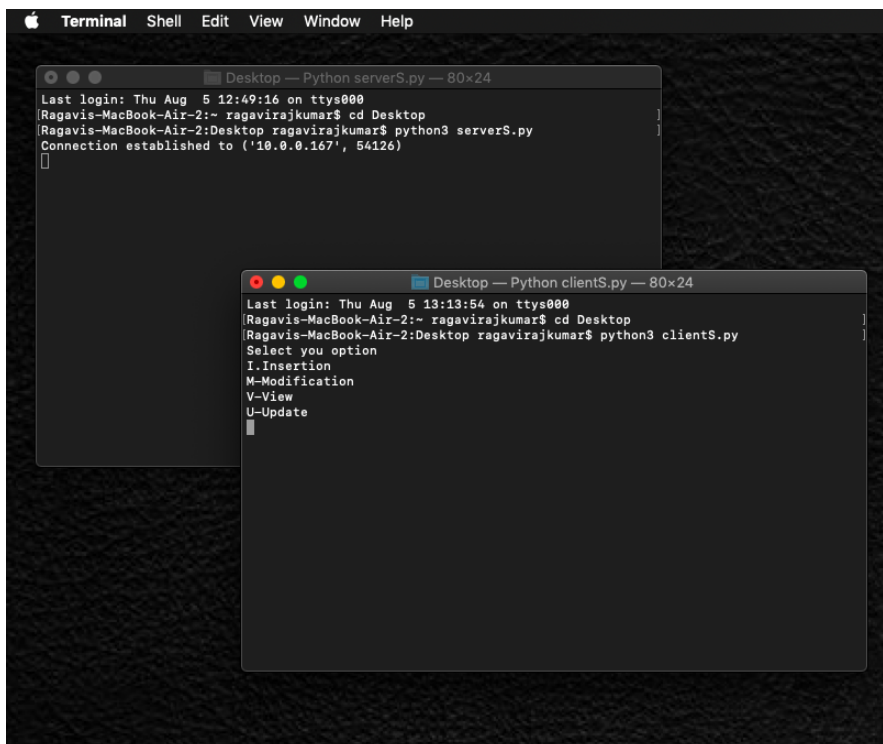
At the client side display the following options



A screenshot of a macOS Terminal window. The title bar shows 'Terminal' with menu options 'Shell', 'Edit', 'View', 'Window', and 'Help'. The window title is 'Desktop — Python serverS.py — 80x24'. The terminal output shows the user logging in, navigating to the Desktop directory, and running 'python3 serverS.py'. The cursor is positioned on a new line below the command.

```
Terminal Shell Edit View Window Help
Desktop — Python serverS.py — 80x24
Last login: Thu Aug 5 12:49:16 on ttys000
Ragavis-MacBook-Air-2:~ ragavirajkumar$ cd Desktop
Ragavis-MacBook-Air-2:Desktop ragavirajkumar$ python3 serverS.py

```



A screenshot showing two overlapping macOS Terminal windows. The background window is titled 'Desktop — Python serverS.py — 80x24' and shows the server script running, displaying 'Connection established to ('10.0.0.167', 54126)'. The foreground window is titled 'Desktop — Python clientS.py — 80x24' and shows the client script running, displaying a menu of options: 'I-Insertion', 'M-Modification', 'V-View', and 'U-Update'. The cursor is on a new line below the menu.

```
Terminal Shell Edit View Window Help
Desktop — Python serverS.py — 80x24
Last login: Thu Aug 5 12:49:16 on ttys000
Ragavis-MacBook-Air-2:~ ragavirajkumar$ cd Desktop
Ragavis-MacBook-Air-2:Desktop ragavirajkumar$ python3 serverS.py
Connection established to ('10.0.0.167', 54126)

Desktop — Python clientS.py — 80x24
Last login: Thu Aug 5 13:13:54 on ttys000
Ragavis-MacBook-Air-2:~ ragavirajkumar$ cd Desktop
Ragavis-MacBook-Air-2:Desktop ragavirajkumar$ python3 clientS.py
Select you option
I-Insertion
M-Modification
V-View
U-Update

```

a. I- Insertion

On entering 'I' it should be possible to insert a new record in the file

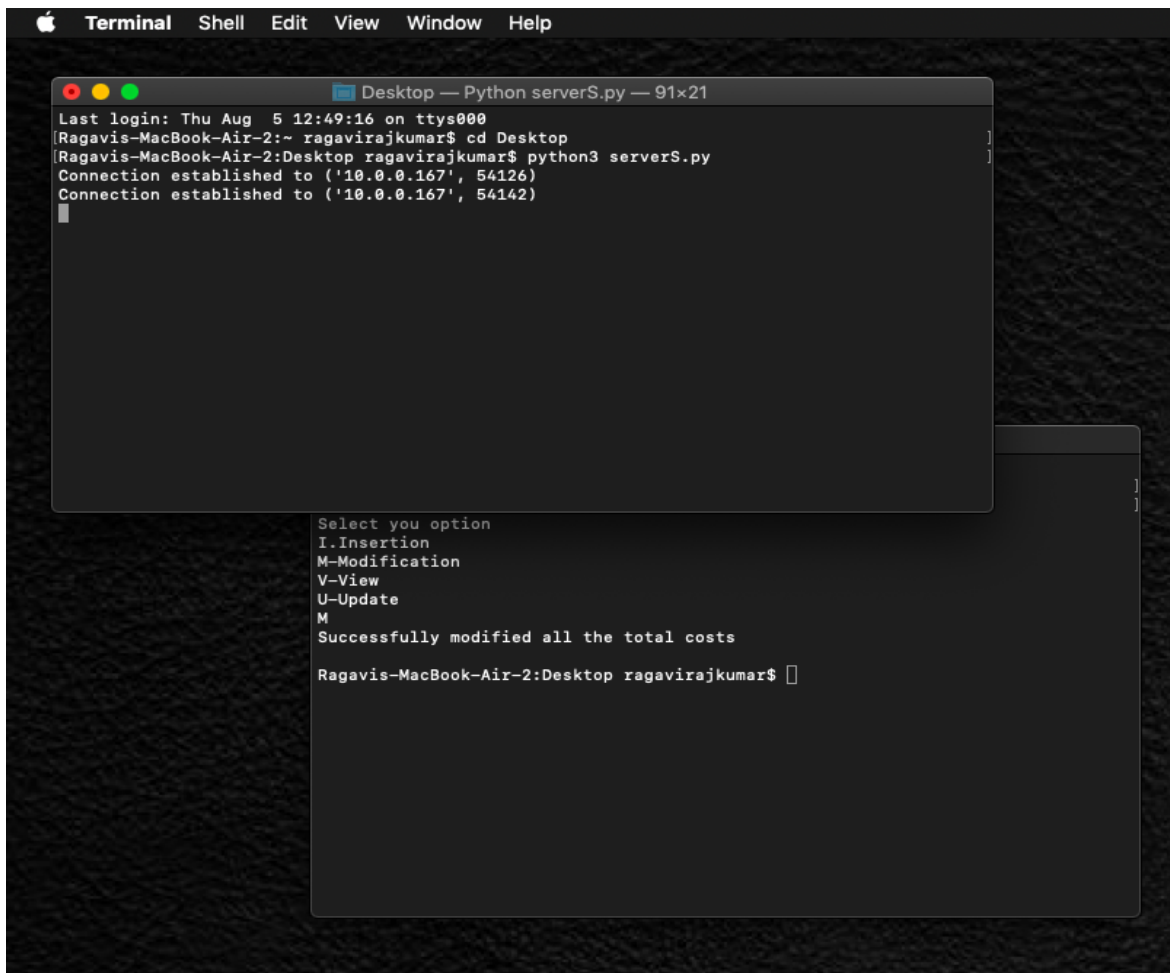
```
[Ragavis-MacBook-Air-2:Desktop ragavirajkumar$ python3 clientS.py
Select you option
I.Insertion
M-Modification
V-View
U-Update
I
Enter Date :8/2/13
Enter FoodId : B55551
Enter Quantity :12
Enter Cost: 98
Successfully inserted new food item
Ragavis-MacBook-Air-2:Desktop ragavirajkumar$ ]
```

Foodbill						
Date	FoodId	Category	Quantity	Cost	Totalcost	
1/11/21	A00001		1	90		
3/4/20	D00003		3	345		
9/2/19	I99041		5	23		
3/4/15	B22371		6	54		
7/8/19	D67902		2	65		
6/3/12	I13456		8	87		
6/4/12	I08537		34	12		
9/10/14	A08527		12	65		
8/1/13	A99942		43	78		
8/2/13	B55551		12	98		

After insertion : *the last row*

b. M-Modification

On entering 'M' it should be possible to modify TotalCost as cost*Quantity



The image shows a macOS Terminal window with a dark background. The title bar at the top reads "Terminal" and includes standard macOS window controls (red, yellow, green buttons) and menu items (Shell, Edit, View, Window, Help). A sub-window titled "Desktop — Python serverS.py — 91x21" is open, displaying the following text:

```
Last login: Thu Aug 5 12:49:16 on ttys000
Ragavis-MacBook-Air-2:~ ragavirajkumar$ cd Desktop
Ragavis-MacBook-Air-2:Desktop ragavirajkumar$ python3 serverS.py
Connection established to ('10.0.0.167', 54126)
Connection established to ('10.0.0.167', 54142)
```

Below this sub-window, the main terminal area shows the output of the client program:

```
Select you option
I.Insertion
M-Modification
V-View
U-Update
M
Successfully modified all the total costs

Ragavis-MacBook-Air-2:Desktop ragavirajkumar$
```

Foodbill

Date	FoodId	Category	Quantity	Cost	Totalcost
1/11/21	A00001		1	90	90
3/4/20	D00003		3	345	1035
9/2/19	I99041		5	23	115
3/4/15	B22371		6	54	324
7/8/19	D67902		2	65	130
6/3/12	I13456		8	87	696
6/4/12	I08537		34	12	408
9/10/14	A08527		12	65	780
8/1/13	A99942		43	78	3354
8/2/13	B55551		12	98	1176

c. V-View

On entering 'V' it should be possible to view the records in the file

```

Terminal Shell Edit View Window Help

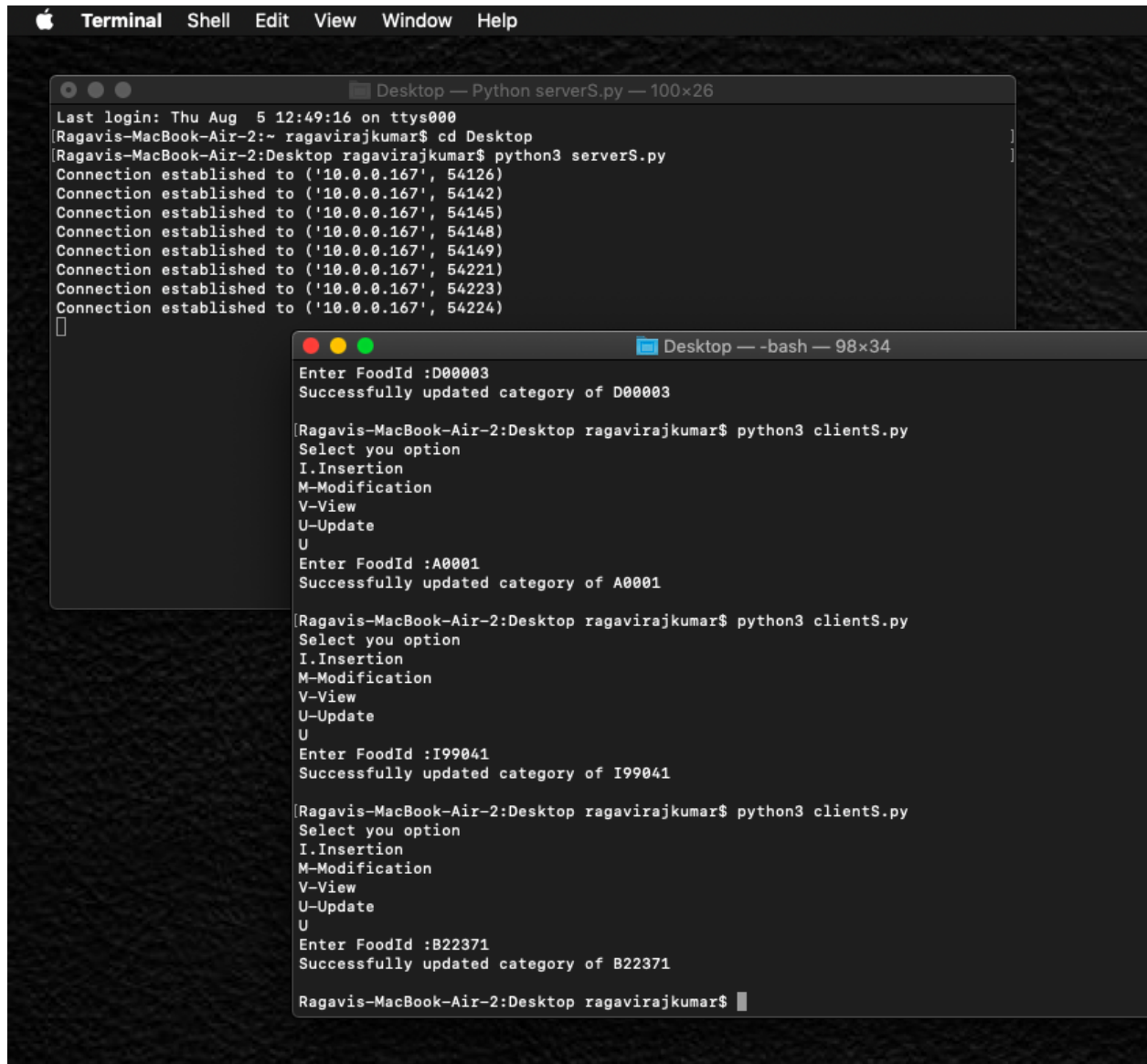
Desktop — Python serverS.py — 91x21
Last login: Thu Aug 5 12:49:16 on ttys000
[Ragavis-MacBook-Air-2:~ ragavirajkumar$ cd Desktop
[Ragavis-MacBook-Air-2:Desktop ragavirajkumar$ python3 serverS.py
Connection established to ('10.0.0.167', 54126)
Connection established to ('10.0.0.167', 54142)
Connection established to ('10.0.0.167', 54145)
█

Desktop — -bash — 84x26
I.Insertion
M-Modification
V-View
U-Update
M
Successfully modified all the total costs
[Ragavis-MacBook-Air-2:Desktop ragavirajkumar$ python3 clientS.py
Select you option
I.Insertion
M-Modification
V-View
U-Update
V
  Date  FoodId  Category  Quantity  Cost  Totalcost
0  1/11/21  A00001    NaN        1    90        90
1  3/4/20  D00003    NaN        3   345       1035
2  9/2/19  I99041    NaN        5    23       115
3  3/4/15  B22371    NaN        6    54       324
4  7/8/19  D67902    NaN        2    65       130
5  6/3/12  I13456    NaN        8    87       696
6  6/4/12  I08537    NaN       34    12       408
7  9/10/14 A08527    NaN       12    65       780
8  8/1/13  A99942    NaN       43    78      3354
9  8/2/13  B55551    NaN       12    98      1176
Ragavis-MacBook-Air-2:Desktop ragavirajkumar$ █

```

d. U-Update

On entering 'U' it should be possible to update the Category as below:



The screenshot shows a macOS Terminal window with two overlapping windows. The background window is titled 'Desktop — Python serverS.py — 100x26' and shows the server script's output. The foreground window is titled 'Desktop — -bash — 98x34' and shows the client script's interaction with the server.

```
Terminal Shell Edit View Window Help

Desktop — Python serverS.py — 100x26
Last login: Thu Aug 5 12:49:16 on ttys000
Ragavis-MacBook-Air-2:~ ragavirajkumar$ cd Desktop
Ragavis-MacBook-Air-2:Desktop ragavirajkumar$ python3 serverS.py
Connection established to ('10.0.0.167', 54126)
Connection established to ('10.0.0.167', 54142)
Connection established to ('10.0.0.167', 54145)
Connection established to ('10.0.0.167', 54148)
Connection established to ('10.0.0.167', 54149)
Connection established to ('10.0.0.167', 54221)
Connection established to ('10.0.0.167', 54223)
Connection established to ('10.0.0.167', 54224)

Desktop — -bash — 98x34
Enter FoodId :D00003
Successfully updated category of D00003

Ragavis-MacBook-Air-2:Desktop ragavirajkumar$ python3 clientS.py
Select you option
I.Insertion
M-Modification
V-View
U-Update
U
Enter FoodId :A0001
Successfully updated category of A0001

Ragavis-MacBook-Air-2:Desktop ragavirajkumar$ python3 clientS.py
Select you option
I.Insertion
M-Modification
V-View
U-Update
U
Enter FoodId :I99041
Successfully updated category of I99041

Ragavis-MacBook-Air-2:Desktop ragavirajkumar$ python3 clientS.py
Select you option
I.Insertion
M-Modification
V-View
U-Update
U
Enter FoodId :B22371
Successfully updated category of B22371

Ragavis-MacBook-Air-2:Desktop ragavirajkumar$
```

- i. If foodid starts with D the category is Dosa
- ii. If foodid starts with A the category is Apple
- iii. If foodid starts with B the category is Briyani
- iv. If foodid starts with I the category is Italian

Foodbill

Date	FoodId	Category	Quantity	Cost	Totalcost
1/11/21	A00001	Apple	1	90	90
3/4/20	D00003	Dosa	3	345	1035
9/2/19	I99041	Italian	5	23	115
3/4/15	B22371	Biryani	6	54	324
7/8/19	D67902		2	65	130
6/3/12	I13456		8	87	696
6/4/12	I08537		34	12	408
9/10/14	A08527		12	65	780
8/1/13	A99942		43	78	3354
8/2/13	B55551		12	98	1176

