R.NO CB.EN.U4CSE19156

LAB-1

SET-B

Server.py:

```
import pandas as pd
import socket
df=pd.read_csv('stationary.csv')
print(df)
s=socket.socket(socket.AF_INET,socket.SOCK_STREAM)
port=6000
host=socket.gethostname()
s.bind((host,port))
s.listen()
print('Server is listening ..')
while True:
    con,addr=s.accept()
    print('connection established')
    c=True
    while c:
        data=con.recv(1024)
        f=repr(data.decode())
        print(f)
        f=f[1:]
        f=f[:len(f)-1]
```

```python
        f=f.split('_')
        print(f)


        if f[0]=="I":
            p=f[1:]

df2=pd.DataFrame.from_records([{'date':p[0],'product_id':int(p[1]),'quantity':int(p[2]),'cost':int(p[3])}])
            print(df2)
            df=df.append(df2)
            print(df)
            df.to_csv('stationary.csv')


        if f[0]=="M":
            df['total_cost']=df['quantity']*df['cost']
            df.to_csv('stationary.csv')
        if f[0]=="V":
            df.to_csv('k.csv')
            f_n='k.csv'
            fl = open(f_n,'rb')
            l = fl.read(1024)
            while (l):
                con.send(l)


                l = fl.read(1024)
```

```python
            fl.close()
        if f[0]=='U':
            for i in range(len(df)):
                if df.loc[i,'total_cost']>1000:
                    df.loc[i,'category']='B'
                else:
                    df.loc[i,'category']='A'
            df.to_csv('stationary.csv')
        if f[0]=='F':
            p=f[1:]
            df2=df[df['date']==p[0]]
            k1=str(df2).encode()
            con.send(k1)
        if f[0]=="S":
            con.close()
            break
```

client.py:

```python
import socket
import pandas as pd
import csv
s=socket.socket(socket.AF_INET,socket.SOCK_STREAM)
host=socket.gethostname()
port=6000
s.connect((host,port))
```

```python
print("connected")
s1=0
while s1!='S':

    print("Select the actions below")
    print('I-insertion')
    print('M-modify')
    print('V-view')
    print('U-update')
    print('F-view based on pname')
    print('S-stop')
    s1=input()
    if s1=='I':
        date=input('enter date:')
        product_id=input('enter product_id:')
        quantity=input('enter quantity:')
        cost=input('enter pcost:')
        p=str(s1)+'_'+str(date)+'_'+str(product_id)+'_'+str(quantity)+'_'+str(cost)

        s.send(p.encode())
        print('sent')
    if s1=='M':



        p=str(s1)
```

```python
        p=str(p)
        s.send(p.encode())
        print('modified')


if s1=='V':



        p=str(s1)
        p=str(p)
        s.send(p.encode())
        print('sent')
        data=s.recv(1024)
        f1=open('m.csv','w')
        f1.write(str(data.decode()))
        f1.close()
        df1=pd.read_csv('m.csv')
        print(df1.loc[:,'date':])
        f2=open('m.csv','r+')
        f2.truncate(0)
        f2.close()
    if s1=='U':
        p=str(s1)
        p=str(p)
        s.send(p.encode())
```

```python
        print('updated')
    if s1=='F':


        date=input('enter date')
        p=str(s1)+'_'+str(date)
        p=str(p)
        s.send(p.encode())
        print('querying ..')
        m1=s.recv(1024)
        dt=m1.decode()
        print(dt)
    if s1==4:
        break
```

INSERT OPERATION:

Server side output:

```
(venv) C:\Users\Chait\Desktop\books\computer networks>python server_19156.py
    date  product_id  quantity  cost  total_cost  category
0   14-Jan          12         2   200         NaN       NaN
1   15-Feb          13         3   300         NaN       NaN
2   16-Mar          14         4   400         NaN       NaN
3   17-Mar          15         5   500         NaN       NaN
4   18-Apr          16         6   600         NaN       NaN
5   19-May          17         5   500         NaN       NaN
6   20-May          18         4   400         NaN       NaN
7   21-May          19         3   300         NaN       NaN
8    1-Jun          20         2   200         NaN       NaN
9    2-Jun          21         1   100         NaN       NaN
Server is listening ..
connection established
'I_14-jun_23_4_400'
['I', '14-jun', '23', '4', '400']
    date  product_id  quantity  cost
0   14-jun          23         4   400
    date  product_id  quantity  cost  total_cost  category
0   14-Jan          12         2   200         NaN       NaN
1   15-Feb          13         3   300         NaN       NaN
2   16-Mar          14         4   400         NaN       NaN
3   17-Mar          15         5   500         NaN       NaN
4   18-Apr          16         6   600         NaN       NaN
5   19-May          17         5   500         NaN       NaN
6   20-May          18         4   400         NaN       NaN
7   21-May          19         3   300         NaN       NaN
8    1-Jun          20         2   200         NaN       NaN
9    2-Jun          21         1   100         NaN       NaN
0   14-jun          23         4   400         NaN       NaN
```

Clientside output:

```
(venv) C:\Users\Chait\Desktop\books\computer networks>python client_19156.py
connected
Select the actions below
I-insertion
M-update_info
V-view
U-update
F-view based on pname
S-stop
I
enter date:14-jun
enter product_id:23
enter quantity:4
enter pcost:400
sent
```

MODIFICATION and VIEW:

Server side output:

(Data frame before modification)

```
(venv) C:\Users\Chait\Desktop\books\computer networks>python server_19156.py
    Unnamed: 0    date  product_id  quantity  cost  total_cost  category
0            0  14-Jan          12         2   200         NaN       NaN
1            1  15-Feb          13         3   300         NaN       NaN
2            2  16-Mar          14         4   400         NaN       NaN
3            3  17-Mar          15         5   500         NaN       NaN
4            4  18-Apr          16         6   600         NaN       NaN
5            5  19-May          17         5   500         NaN       NaN
6            6  20-May          18         4   400         NaN       NaN
7            7  21-May          19         3   300         NaN       NaN
8            8   1-Jun          20         2   200         NaN       NaN
9            9   2-Jun          21         1   100         NaN       NaN
10           0  14-jun          23         4   400         NaN       NaN
Server is listening ..
connection established
'M'
['M']
'V'
['V']
Sent  b',Unnamed: 0,date,product_id,quantity,cost,total_cost,category\r\n0,0,14-Jan,12,2,200,400,\r\n1,1,15-Feb,13,3,300
,900,\r\n2,2,16-Mar,14,4,400,1600,\r\n3,3,17-Mar,15,5,500,2500,\r\n4,4,18-Apr,16,6,600,3600,\r\n5,5,19-May,17,5,500,2500
,\r\n6,6,20-May,18,4,400,1600,\r\n7,7,21-May,19,3,300,900,\r\n8,8,1-Jun,20,2,200,400,\r\n9,9,2-Jun,21,1,100,100,\r\n10,0
,14-jun,23,4,400,1600,\r\n'
```

Client side output:

Modification and view operations

```
(venv) C:\Users\Chait\Desktop\books\computer networks>python client_19156.py
connected
Select the actions below
I-insertion
M-update_info
V-view
U-update
F-view based on pname
S-stop
M
modified
Select the actions below
I-insertion
M-update_info
V-view
U-update
F-view based on pname
S-stop
V
sent
      date  product_id  quantity  cost  total_cost  category
0   14-Jan          12         2   200         400       NaN
1   15-Feb          13         3   300         900       NaN
2   16-Mar          14         4   400        1600       NaN
3   17-Mar          15         5   500        2500       NaN
4   18-Apr          16         6   600        3600       NaN
5   19-May          17         5   500        2500       NaN
6   20-May          18         4   400        1600       NaN
7   21-May          19         3   300         900       NaN
8    1-Jun          20         2   200         400       NaN
9    2-Jun          21         1   100         100       NaN
10  14-jun          23         4   400        1600       NaN
Select the actions below
```

UPDATE AND VIEW:

SERVER SIDE:

EXCEL FILE DATA BEFORE:

```
(venv) C:\Users\Chait\Desktop\books\computer networks>python server_19156.py
    Unnamed: 0  Unnamed: 0.1    date  product_id  quantity  cost  total_cost  category
0            0             0  14-Jan          12         2   200         400       NaN
1            1             1  15-Feb          13         3   300         900       NaN
2            2             2  16-Mar          14         4   400        1600       NaN
3            3             3  17-Mar          15         5   500        2500       NaN
4            4             4  18-Apr          16         6   600        3600       NaN
5            5             5  19-May          17         5   500        2500       NaN
6            6             6  20-May          18         4   400        1600       NaN
7            7             7  21-May          19         3   300         900       NaN
8            8             8   1-Jun          20         2   200         400       NaN
9            9             9   2-Jun          21         1   100         100       NaN
10          10             0  14-jun          23         4   400        1600       NaN
Server is listening ..
connection established
'U'
['U']
'V'
['V']
```

CLIIENT SIDE OUTPUT:

```
(venv) C:\Users\Chait\Desktop\books\computer networks>python client_19156.py
connected
Select the actions below
I-insertion
M-modify
V-view
U-update
F-view based on pname
S-stop
U
updated
Select the actions below
I-insertion
M-modify
V-view
U-update
F-view based on pname
S-stop
V
sent
      date  product_id  quantity  cost  total_cost category
0   14-Jan          12         2   200         400        A
1   15-Feb          13         3   300         900        A
2   16-Mar          14         4   400        1600        B
3   17-Mar          15         5   500        2500        B
4   18-Apr          16         6   600        3600        B
5   19-May          17         5   500        2500        B
6   20-May          18         4   400        1600        B
7   21-May          19         3   300         900        A
8    1-Jun          20         2   200         400        A
9    2-Jun          21         1   100         100        A
10  14-jun          23         4   400        1600        B
```

F-get values based on date:

Server side:

```
Server is listening ..
connection established
'F_14-jun'
['F', '14-jun']
```

Client side:

```
(venv) C:\Users\Chait\Desktop\books\computer networks>python client_19156.py
connected
Select the actions below
I-insertion
M-modify
V-view
U-update
F-view based on pname
S-stop
F
enter date14-jun
querying ..
```

```
    date  product_id  quantity  cost  total_cost category
14-jun            23         4   400        1600        B
```

EXCEL SHEET AFTER ALL OPERATIONS:

date	product_id	quantity	cost	total_cost	category
14-Jan	12	2	200	400	A
15-Feb	13	3	300	900	A
16-Mar	14	4	400	1600	B
17-Mar	15	5	500	2500	B
18-Apr	16	6	600	3600	B
19-May	17	5	500	2500	B
20-May	18	4	400	1600	B
21-May	19	3	300	900	A
1-Jun	20	2	200	400	A
2-Jun	21	1	100	100	A
14-Jun	23	4	400	1600	B