

N.K. BAGRODIA PUBLIC SCHOOL SECTOR-04, DWARKA



# **COMPUTER SCIENCE-(083)**

**A PROJECT REPORT ON**

**ELECTRICITY BILL**

**MANAGEMENT**

**SESSION: 2023-24**

**Under the Guidance of:**

**Ms. PREETI(PGT CS/IP)**

**Submitted By: Divyaansh Singh**

**CBSE Roll No: \_\_\_\_\_**

# **Certificate**

***This is to certify that Divyaansh Singh,  
CBSE Roll No. \_\_\_\_\_ of Class XII Session 2023-24  
has prepared the Project File as per the prescribed  
Syllabus of **COMPUTER SCIENCE*****

***Code-083, Class-XII AISSCE (CBSE) under my  
supervision.***

*It is the original work done by him/her. His/ her work is  
really appreciable.*

*I wish him/her a very bright success.*

---

*Signature of Teacher*

---

*Signature of External*

# **Acknowledgement**

*I would like to express my special thanks of gratitude to my Teacher **Ms. Preeti (PGT CS/IP)** as well as our Head of the department(HOS) **Ms. Anjali kharbanda** who gave me the golden opportunity to prepare this Project File.*

*Secondly, I would also like to thank my parents and friends who helped me a lot in finalizing this file within the limited time frame.*

**Student's Name: Divyaansh Maheshwari Singh**

**CBSE Roll no: \_\_\_\_\_**

**Teacher' s signature**

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# Project Details

**Front End: Python**

**Back End: File Handling using CSV**


# Excel File:consumer\_data

AutoSave Off

consumer\_data


Search

FileHomeInsertPage LayoutFormulasDataReviewViewHelp



Paste

Format Painter




Cut


Copy


Clipboard


Calibri


11















Font








Alignment




Wrap Text





Merge & Center


Alignment


General













Number



Conditional Formatting



Format as Table

Styles

J13

	A	B	C	D	E	F	G
1	S.no	Consumer ID	Password	Consumer Name	Units consumed	Address	Total Bill
2	1)	C-1001	pass1	Aditya	215	C.P	1075
3	2)	C-1002	pass2	Raj	153	Karol Bagh	765
4	3)	C-1003	pass3	Brijesh	267	Chanakyapuri	1335
5	4)	C-1004	pass4	Surinder	352	Hauz Khaz	1760
6	5)	C-1005	pass5	Jaspreet	55	Janpath	275
7	6)	C-1006	pass6	Krishna	247	Dilli	1235
8	7)	C-1007	pass7	Shiva	0	Mehrauli	0
9	8)	C-1008	pass8	Ram	658	Rohini	3290
10	9)	C-1009	pass9	Narayan	156	Dwarka	780
11	10)	C-10010	pass10	Karan	269	Pitampura	1345
12	11)	C-10011	pass11	Rithvik	218	Saket	1090
13	12)	C-10012	pass12	Aarush	412	Nizamuddin	2060
14	13)	C-10013	pass13	Sunita	158	Lajpat Nagar	790
15	14)	C-10014	pass14	Anita	264	Paharganj	1320
16	15)	C-10015	pass15	Santosh	645	Shahdara	3225
17	16)	C-10016	pass16	Sanjay	351	Rajouri Garden	1755
18	17)	C-10017	pass17	Sunil	468	Kamla Nagar	2340
19	18)	C-10018	pass18	Rajesh	245	Sarita Vihar	1225
20	19)	C-10019	pass19	Gita	344	Pragati Maidan	1720
21	20)	C-10020	pass20	Ramesh	466	Mayur Vihar	2330
22	21)	C-10021	pass21	Ashok	458	Chattarpur	2290
23	22)	C-10022	pass22	Rekha	267	Khan Market	1335
24	23)	C-10023	pass23	Manoj	0	Inderlok	0
25	24)	C-10024	pass24	Anil	547	Palam	2735
26	25)	C-10025	pass25	Suresh	143	Kalkaji	715
27	26)	C-10026	pass26	Vijay	337	Uttam Nagar	1685
28	27)	C-10027	pass27	Lakshmi	168	Okhla	840
29	28)	C-10028	pass28	Raju	249	Mandi	1245
30	29)	C-10029	pass29	Manju	531	Jangpura	2655
31	30)	C-10030	pass30	Shanti	220	Tilak Nagar	1100
32	31)	C-10031	pass31	Aryan	569	Chawri Bazzar	2845
33	32)	C-10032	pass32	Divyaansh	245	Peeragarhi	1225
34	33)	C-10033	pass33	Avinash	574	Badarpur	2870
35	34)	C-10034	pass34	Suryansh	157	Mehrauli	785
36	35)	C-10035	pass35	Gaurav	180	Nehru Place	900

# CSV File

consumer\_data.csv

consumer_data						
File Edit View						
S.no	Consumer ID	Password	Consumer Name	Units consumed	Address	Total Bill
1)	C-1001	pass1	Aditya	215	C.P	1075
2)	C-1002	pass2	Raj	153	Karol Bagh	765
3)	C-1003	pass3	Brijesh	267	Chanakyapuri	1335
4)	C-1004	pass4	Surinder	352	Hauz Khaz	1760
5)	C-1005	pass5	Jaspreet	55	Janpath	275
6)	C-1006	pass6	Krishna	247	Dilli	1235
7)	C-1007	pass7	Shiva	0	Mehrauli	0
8)	C-1008	pass8	Ram	658	Rohini	3290
9)	C-1009	pass9	Narayan	156	Dwarka	780
10)	C-10010	pass10	Karan	269	Pitampura	1345
11)	C-10011	pass11	Rithvik	218	Saket	1090
12)	C-10012	pass12	Aarush	412	Nizamuddin	2060
13)	C-10013	pass13	Sunita	158	Lajpat Nagar	790
14)	C-10014	pass14	Anita	264	Paharganj	1320
15)	C-10015	pass15	Santosh	645	Shahdara	3225
16)	C-10016	pass16	Sanjay	351	Rajouri Garden	1755
17)	C-10017	pass17	Sunil	468	Kamla Nagar	2340
18)	C-10018	pass18	Rajesh	245	Sarita Vihar	1225
19)	C-10019	pass19	Gita	344	Pragati Maidan	1720
20)	C-10020	pass20	Ramesh	466	Mayur Vihar	2330
21)	C-10021	pass21	Ashok	458	Chattarpur	2290
22)	C-10022	pass22	Rekha	267	Khan Market	1335
23)	C-10023	pass23	Manoj	0	Inderlok	0
24)	C-10024	pass24	Anil	547	Palam	2735
25)	C-10025	pass25	Suresh	143	Kalkaji	715
26)	C-10026	pass26	Vijay	337	Uttam Nagar	1685
27)	C-10027	pass27	Lakshmi	168	Okhla	840
28)	C-10028	pass28	Raju	249	Mandi	1245
29)	C-10029	pass29	Manju	531	Jangpura	2655
30)	C-10030	pass30	Shanti	220	Tilak Nagar	1100
31)	C-10031	pass31	Aryan	569	Chawri Bazaar	2845
32)	C-10032	pass32	Divyaansh	245	Peeragarhi	1225
33)	C-10033	pass33	Avinash	574	Badarpur	2870
34)	C-10034	pass34	Suryansh	157	Mehrauli	785
35)	C-10035	pass35	Gaurav	180	Nehru Place	900

# #Source Code

```
import csv

def main_menu():
    cont=True
    while cont:
        print()
        print("\n-----Welcome to the BSES Electricity Portal!")
        print("Empowering you with seamless access to your power needs.-----")
        print("1.ADMIN Login")
        print("2.CONSUMER Login")
        choice=input("Enter your choice:")
        if choice=="1":
            admin_login()

        elif choice=="2":
            consumer_login()

        else:
            print("Invalid choice.Try again.")

def admin_login():
    adminid=input("Enter Admin ID:")
    passwd=input("Enter Password:")
    while True:
        print()
```

```
print("ADMIN Login Successfully\n")
print("***ADMIN MENUS***")
print("A.1 Display Consumer Details")
print("A.2 Add new consumer")
print("A.3 Update Consumer Details")
print("A.4 Search Consumer ID")
print("A.5 Exit")
choice=input("Enter your sub choice:")
if choice=="A.1":
    view_all_records()
elif choice=="A.2":
    add_record()
elif choice=="A.3":
    update_record()
elif choice=="A.4":
    search_record()
elif choice=="A.5":
    exit(0)
else:
    print("Invalid choice.Try again.")
def view_all_records():
    print("\nConsumer Details:")
    f=open("consumer_data.csv","r",newline="")
    rd=csv.reader(f)
    for rec in rd:
        print(rec)
```



```
def add_record():  
    print()  
    sno="36)"  
    cid=input("Enter consumer id:")  
    passwd=input("Enter password:")  
    name=input("Enter consumer name:")  
    uc=int(input("Enter Units consumed:"))  
    add=input("Enter Address:")  
    tb=int(input("Enter total bill:"))  
    data=[sno,cid,passwd,name,uc,add,tb]  
    f=open("consumer_data.csv","a",newline="")  
    wd=csv.writer(f)  
    wd.writerow(data)  
    f.close()  
    print("Record Added Successfully")
```

```
def update_record():  
    userid=input("Enter consumer id:")  
    f=open("consumer_data.csv","r+",newline="")  
    data=[]  
    dreader=csv.reader(f)  
    dwriter=csv.writer(f)  
    f.seek(0)  
    for i in dreader:  
        if i[1]==userid:
```

```
print("Electricity consumed",int(i[4]))
c=input("Update consumer's electricity consumption?[y/n]")
if c[0] in "yY":
    consumed=int(input("Enter the updated record of electricity
consumed(kWh):"))
    i[4]=str(consumed)
    print("Record Updated")
    print(i)
    data.append(i)
f.seek(0)
dwriter.writerows(data)
f.close()
```

```
def search_record():
    userid=input("Enter consumer id to check Electricity bill:")
    f=open("consumer_data.csv","r")
    dreader=csv.reader(f)
    f.seek(0)
    for i in dreader:
        if i[1]==userid:
            print("Record found")
            print(i)
```

```
def consumer_login():  
    cid=input("Enter Consumer ID:")  
    passwd=input("Enter Password:")  
    f=open("consumer_data.csv","r",newline="")  
    rd=csv.reader(f)  
    for i in rd:  
        if i[1]==cid:  
            name=i[3]  
            bill=i[6]  
    print("\nWelcome",name)  
    while True:  
        print()  
        print("Consumer Login Successfully\n")  
        print("***Consumer MENUS***")  
        print("C.1 About BSES")  
        print("C.2 Check Electricity Bill")  
        print("C.3 Exit")  
        choice=input("Enter your sub choice:")  
        if choice=="C.1":  
            print()  
            print("BSES Rajdani Power Limited (BRPL) supplies reliable power to an  
area spread ~ 700 sq. kms with a customer density of ~3100 per sq km. Its over  
2.7million customers are spread across 22 divisions across South and West  
areas, including Alaknanda, Dwarka, HauzKhas, Jaffarpur, JanakPuri, Khanpur,  
Mundka, Najafgarh, Nangloi, Nehru Place, New Friends Colony, Nizamuddin,  
Palam, Punjabi Bagh, R.K. Puram, Saket, SaritaVihar, Tagore Garden, Vasant  
Kunj, VikasPuri, Uttam Nagar & Mohan Garden.")
```

```
elif choice=="C.2":  
    search_record()  
    print("\nYour electricity bill",bill,"yet to be paid")  
elif choice=="C.3":  
    exit(0)  
else:  
    print("Invalid choice.Try again.")
```

```
main_menu()
```

# #Admin Outputs:

## #Output 1

```
IDLE Shell 3.10.5
File Edit Shell Debug Options Window Help
Python 3.10.5 (tags/v3.10.5:f377153, Jun  6 2022, 16:14:13) [MSC v.19
win32
Type "help", "copyright", "credits" or "license()" for more informati
>>>
= RESTART: C:\Users\divya\AppData\Local\Programs\Python\Python310\ele
ent revised.py

-----Welcome to the BSES Electricity Portal!
Empowering you with seamless access to your power needs.-----
1.ADMIN Login
2.CONSUMER Login
Enter your choice:1
Enter Admin ID:ad1017
Enter Password:prt435

ADMIN Login Successfully

***ADMIN MENUS***
A.1 Display Consumer Details
A.2 Add new consumer
A.3 Update Consumer Details
A.4 Search Consumer ID
A.5 Exit
Enter your sub choice:A.1

Consumer Details:
['S.no', 'Consumer ID', 'Password', 'Consumer Name', 'Units consumed', 'Address', 'Total B
ill']
['1)', 'C-1001', 'pass1', 'Aditya', '215', 'C.P', '1075']
['2)', 'C-1002', 'pass2', 'Raj', '153', 'Karol Bagh', '765']
['3)', 'C-1003', 'pass3', 'Brijesh', '267', 'Chanakyapuri', '1335']
['4)', 'C-1004', 'pass4', 'Surinder', '352', 'Hauz Khaz', '1760']
['5)', 'C-1005', 'pass5', 'Jaspreet', '55', 'Janpath', '275']
['6)', 'C-1006', 'pass6', 'Krishna', '247', 'Dilli', '1235']
['7)', 'C-1007', 'pass7', 'Shiva', '0', 'Mehrauli', '0']
['8)', 'C-1008', 'pass8', 'Ram', '658', 'Rohini', '3290']
['9)', 'C-1009', 'pass9', 'Narayan', '156', 'Dwarka', '780']
['10)', 'C-10010', 'pass10', 'Karan', '269', 'Pitampura', '1345']
['11)', 'C-10011', 'pass11', 'Rithvik', '218', 'Saket', '1090']
['12)', 'C-10012', 'pass12', 'Aarush', '412', 'Nizamuddin', '2060']
['13)', 'C-10013', 'pass13', 'Sunita', '158', 'Lajpat Nagar', '790']
['14)', 'C-10014', 'pass14', 'Anita', '264', 'Paharganj', '1320']
['15)', 'C-10015', 'pass15', 'Santosh', '645', 'Shahdara', '3225']
['16)', 'C-10016', 'pass16', 'Sanjay', '351', 'Rajouri Garden', '1755']
['17)', 'C-10017', 'pass17', 'Sunil', '468', 'Kamla Nagar', '2340']
['18)', 'C-10018', 'pass18', 'Rajesh', '245', 'Sarita Vihar', '1225']
['19)', 'C-10019', 'pass19', 'Gita', '344', 'Pragati Maidan', '1720']
['20)', 'C-10020', 'pass20', 'Ramesh', '466', 'Mayur Vihar', '2330']
['21)', 'C-10021', 'pass21', 'Ashok', '458', 'Chattarpur', '2290']
```

```
['22)', 'C-10022', 'pass22', 'Rekha', '267', 'Khan Market', '1335']
['23)', 'C-10023', 'pass23', 'Manoj', '0', 'Inderlok', '0']
['24)', 'C-10024', 'pass24', 'Anil', '547', 'Palam', '2735']
['25)', 'C-10025', 'pass25', 'Suresh', '143', 'Kalkaji', '715']
['26)', 'C-10026', 'pass26', 'Vijay', '337', 'Uttam Nagar', '1685']
['27)', 'C-10027', 'pass27', 'Lakshmi', '168', 'Okhla', '840']
['28)', 'C-10028', 'pass28', 'Raju', '249', 'Mandi', '1245']
['29)', 'C-10029', 'pass29', 'Manju', '531', 'Jangpura', '2655']
['30)', 'C-10030', 'pass30', 'Shanti', '220', 'Tilak Nagar', '1100']
['31)', 'C-10031', 'pass31', 'Aryan', '569', 'Chawri Bazaar', '2845']
['32)', 'C-10032', 'pass32', 'Divyaansh', '245', 'Peeragarhi', '1225']
['33)', 'C-10033', 'pass33', 'Avinash', '574', 'Badarpur', '2870']
['34)', 'C-10034', 'pass34', 'Suryansh', '157', 'Mehrauli', '785']
['35)', 'C-10035', 'pass35', 'Gaurav', '180', 'Nehru Place', '900']
```

## #Output 2

\*\*\*ADMIN MENUS\*\*\*

A.1 Display Consumer Details

A.2 Add new consumer

A.3 Update Consumer Details

A.4 Search Consumer ID

A.5 Exit

Enter your sub choice:A.2

Enter consumer id:C-10036

Enter password:pass36

Enter consumer name:Ajay

Enter Units consumed:69

Enter Address:gurgaon

Enter total bill:345

Record Added Successfully

25),C-10025,pass25,Suresh,143,Kalkaji,715  
26),C-10026,pass26,Vijay,337,Uttam Nagar,1685  
27),C-10027,pass27,Lakshmi,168,Okhla,840  
28),C-10028,pass28,Raju,249,Mandi,1245  
29),C-10029,pass29,Manju,531,Jangpura,2655  
30),C-10030,pass30,Shanti,220,Tilak Nagar,1100  
31),C-10031,pass31,Aryan,569,Chawri Bazzar,2845  
32),C-10032,pass32,Divyaansh,245,Peeragarhi,1225  
33),C-10033,pass33,Avinash,574,Badarpur,2870  
34),C-10034,pass34,Suryansh,157,Mehrauli,785  
35),C-10035,pass35,Gaurav,180,Nehru Place,900  
36),C-10036,pass36,Ajay,69,Gurgaon,345

## #Output 3

\*\*\*ADMIN MENUS\*\*\*

A.1 Display Consumer Details

A.2 Add new consumer

A.3 Update Consumer Details

A.4 Search Consumer ID

A.5 Exit

Enter your sub choice:A.3

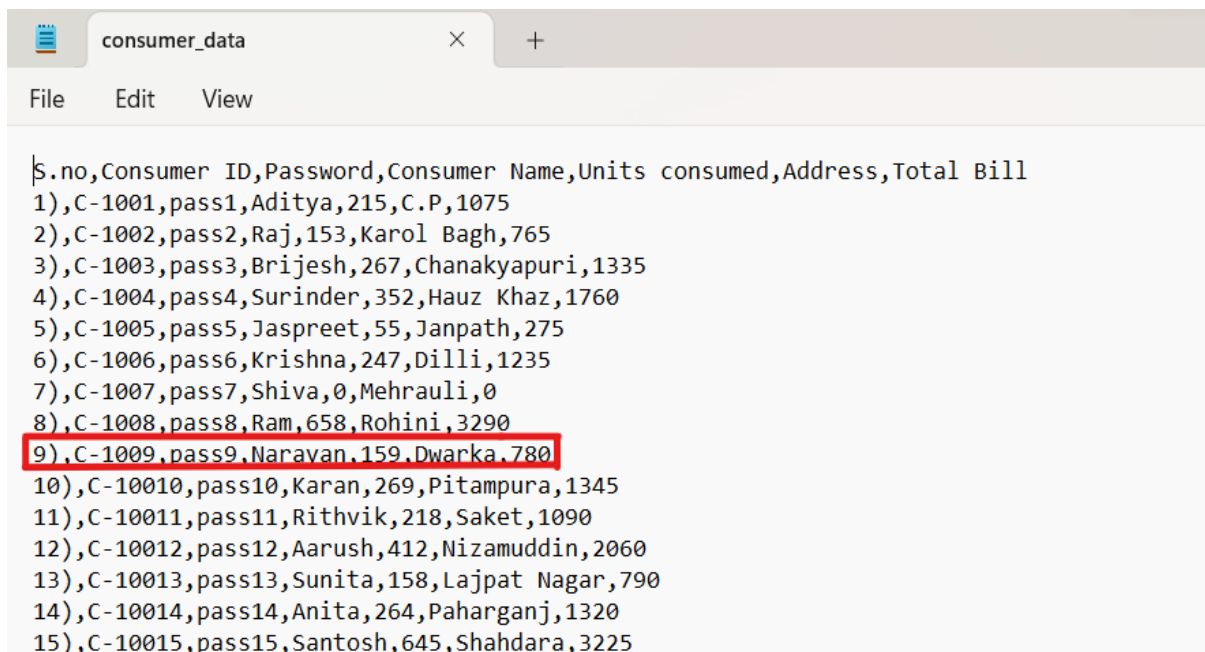
Enter consumer id:C-1009

Electricity consumed 156

Update consumer's electricity consumption?[y/n]y

Enter the updated record of electricity consumed(kWh):159

Record Updated



```
consumer_data
File Edit View

s.no,Consumer ID>Password,Consumer Name,Units consumed,Address>Total Bill
1),C-1001,pass1,Aditya,215,C.P,1075
2),C-1002,pass2,Raj,153,Karol Bagh,765
3),C-1003,pass3,Brijesh,267,Chanakyapuri,1335
4),C-1004,pass4,Surinder,352,Hauz Khaz,1760
5),C-1005,pass5,Jaspreet,55,Janpath,275
6),C-1006,pass6,Krishna,247,Dilli,1235
7),C-1007,pass7,Shiva,0,Mehrauli,0
8),C-1008,pass8,Ram,658,Rohini,3290
9),C-1009,pass9,Naravan,159,Dwarka,780
10),C-10010,pass10,Karan,269,Pitampura,1345
11),C-10011,pass11,Rithvik,218,Saket,1090
12),C-10012,pass12,Aarush,412,Nizamuddin,2060
13),C-10013,pass13,Sunita,158,Lajpat Nagar,790
14),C-10014,pass14,Anita,264,Paharganj,1320
15),C-10015,pass15,Santosh,645,Shahdara,3225
```



## #Output 4

\*\*\*ADMIN MENUS\*\*\*

A.1 Display Consumer Details

A.2 Add new consumer

A.3 Update Consumer Details

A.4 Search Consumer ID

A.5 Exit

Enter your sub choice:A.4

Enter consumer id to check Electricity bill:C-10018

Record found

['18)', 'C-10018', 'pass18', 'Rajesh', '245', 'Sarita Vihar', '1225']

## #Output 5

ADMIN Login Successfully

\*\*\*ADMIN MENUS\*\*\*

A.1 Display Consumer Details

A.2 Add new consumer

A.3 Update Consumer Details

A.4 Search Consumer ID

A.5 Exit

Enter your sub choice:A.5

# #Consumer Outputs

## #Output 1

```
IDLE Shell 3.10.5
File Edit Shell Debug Options Window Help
>>> = RESTART: C:\Users\divya\AppData\Local\Programs\Python\Python310\
ent revised.py

-----Welcome to the BSES Electricity Portal!
Empowering you with seamless access to your power needs.-----
1.ADMIN Login
2.CONSUMER Login
Enter your choice:2
Enter Consumer ID:C-1006
Enter Password:pass6

Welcome Krishna

Consumer Login Successfully

***Consumer MENUS***
C.1 About BSES
C.2 Check Electricity Bill
C.3 Exit
Enter your sub choice:C.1
```

BSES Rajdjani Power Limited (BRPL) supplies reliable power to an area spread ~ 700 sq. kms with a customer density of ~3100 per sq km. Its over 2.7million customers are spread across 22 divisions across South and West areas, including Alaknanda, Dwarka, HauzKhas, Jaffarpur, JanakPuri, Khanpur, Mundka, Najafgarh, Nangloi, Nehru Place, New Friends Colony, Nizamuddin, Palam, Punjabi Bagh, R.K. Puram, Saket, SaritaVihar, Tagore Garden, Vasant Kunj, VikasPuri, Uttam Nagar & Mohan Garden.

## #Output 2

```
***Consumer MENUS***
C.1 About BSES
C.2 Check Electricity Bill
C.3 Exit
Enter your sub choice:C.2
Enter consumer id to check Electricity bill:C-1006
Record found
['6)', 'C-1006', 'pass6', 'Krishna', '247', 'Dilli', '1235']

Your electricity bill 1235 yet to be paid
```

## #Output 3

```
***Consumer MENUS***  
C.1 About BSES  
C.2 Check Electricity Bill  
C.3 Exit  
Enter your sub choice:C.3
```

# Bibliography

The following resources were used in making this project:

1. Computer science with Python-By Sumita Arora-  
Textbook for class XII
2. GeeksforGeeks([geeksforgeeks.org](https://www.geeksforgeeks.org))
3. Tutorialspoint([tutorialspoint.com](https://www.tutorialspoint.com))
4. Stack Overflow([stackoverflow.com](https://stackoverflow.com))