CBSE-Class XII

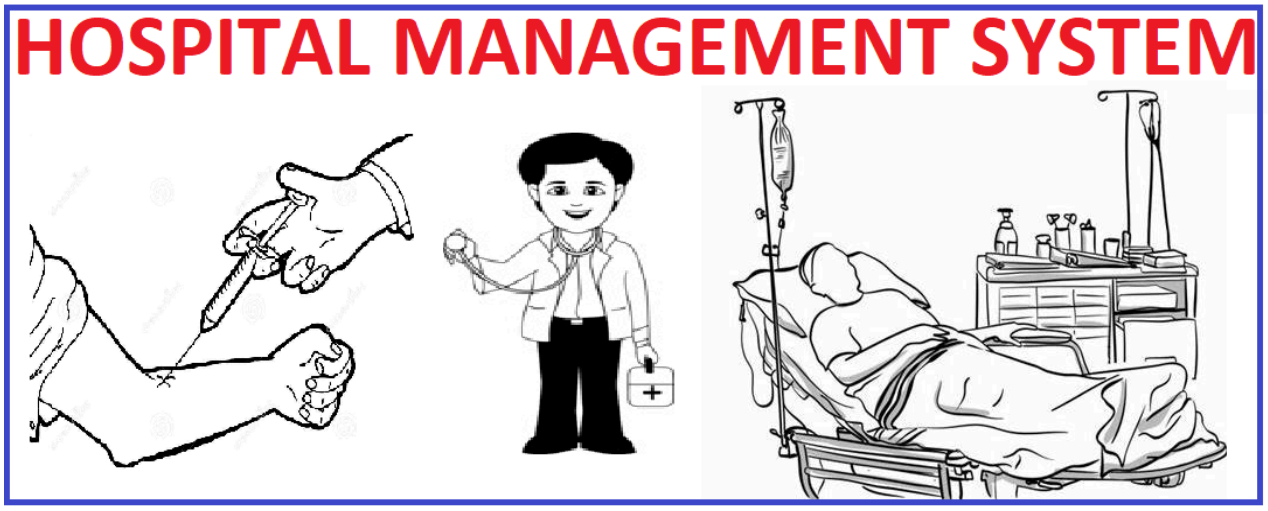
INFORMATICS PRACTICES

PROJECT WORK

(2022-23)

"HOSPITAL MANAGEMENT SYSTEM"

(PATIENTS, DOCTORS and APPOINTMENTs DETAILS)



By

NAME OF THE STUDENT

Regd. No:_____

_____SCHOOL, _____ CITY

_____ SCHOOL, _____CITY

CERTIFICATE

Regd.No:_____

This is to certify that this project entitled "**Hospital Management System**" has been submitted by "**Student Name**" in the fulfilment of the course Informatics Practices of class XII for the academic year 2022-23 to the Department of Computer Science, _____ School, _____city, affiliated to CBSE,New Delhi. It is a record of bonafied work carried out under my guidance and supervision.

Guide Name : **Signature**

Designation :

Department of :

External Examiner Name **External Examiner Signature**

Date:

ACKNOWLEDGEMENT

At the outset, I am thankful to _____School for giving me the opportunity to prepare the project report using Python.

I would like to express my gratitude to school management, principal, vice principal and all my teachers, especially my Informatics Practices teacher, who have constantly guided me in the completion of the project work.

Thanking one and all

Yours sincerely

“HOSPITAL MANAGEMENT SYSTEM”

(patients, doctors & appointment details)

CONTENTS

System Requirements

HARDWARE:

Should Contain a system with good processor, RAM and hard disk.

Example of configuration:

Processor	Intel(R) Core(TM) i3-7100 CPU @ 3.90GHz 3.90 GHz
Installed RAM	4.00 GB (3.89 GB usable)

SOFTWARE :

- Python 3.6 or above
- Should be installed “pandas” in Python
- Should be installed “matplotlib” in Python

Technology Used

Python :

Python programming language was developed by Guido Van Rossum in February 1991.

Python is an easy-to-learn yet powerful object oriented programming language. It is a very high level programming language yet as powerful as many other middle-level, not so high-level languages like C, C++, Java etc.

Pandas :

Pandas is the most popular library in the *scientific Python ecosystem* for doing data analysis, Pandas is capable of many tasks including:

- It can read or write in many different data formats (integer, float, double, etc.).
- It can calculate in all the possible ways data is organized i.e., across rows and down columns,
- It can easily select subsets of data from bulky data sets and even combine multiple datasetstogether.
- It has functionality to find and fill missing data.
- It allows you to apply operations to independent groups within the data.
- It supports reshaping of data into different forms.
- It supports advanced time-series functionality (*Time series forecasting is the use of a model topredict future values based on previously observed values*.)
- It supports visualization by integrating matplotlib and seaborn etc. libraries.

Data Frame :

A DataFrame is a Pandas structure, which stores data in two-dimensional way. It is actually a two-dimensional (tabular and spreadsheet like) labeled array, which is actually an ordered collection of columns where columns may store different types of data, e.g., numeric or string or floating point or Boolean type etc.

Major characteristics of a DataFrame are :

- It has two indexes or we can say that two axes - a row index(axis = 0) and a column index (axis = 1).
- Conceptually it is like a spreadsheet where each value isidentifiable with the combination of row index and column index. The row index is known as index in general and the column index is called the column-name.
- The indexes can be of numbers or letters or strings.
- There is no condition of having all data of same type across columns; its columns can have data of different types.
- DataFrames are value-mutable (its values can be easily changed)
- DataFrames are size-mutable (rows/columns can be easily added or deleted)

CSV File :

Refers to the tabular data saved as plaintext where data values are separated by commas.

The CSV format is popular as it offers following advantages:

- A simple, compact and ubiquitous format for data storage.
- A common format for data interchange.
- It can be opened in popular spreadsheet packages likeMS-Excel, Calc etc.
- Nearly all spreadsheets and databases support import/export to csv format.

Python's Pandas library offers two functions read_csv() and to_csv( ) that help you bring data from a CSV file into a dataframe and write a data frame's data to a CSV file.

Data Visualization and matplotlib :

Data Visualization basically refers to the graphical and visual representation of information and data using visual elements like charts, graphs, and maps, etc.

Data Visualization is immensely useful in decision making unveils patterns, trends, outliners, correlations etc. in the data helping decision-makers understand the meaning of data to drive decisions.

The matplotlib is a Python library that provides many interfaces and functionalities for 2D graphics. matplotlib is a high quality plotting library of python that provides both very quick way to visualize data from Python and publication-quality figures in many formats.

The matplotlib library offers many different named collections of methods; PyPlot is one of such interfaces, a collection of methods within matplotlib which allows used to construct 2D plots easily and interactively.

ABSTRACT

During search for a project topic, working of "**HOSPITAL MANAGEMENT SYSTEM**" impresses me. Use of computer is very essential and necessary inall the fields of life. Computerization of hospital data will obviously save the timeand will offer speed to the work.

Thus, it will support to our service to people. By using computerizedmechanism, we maintain all the information. This project is very useful in handlinghospital data as requirements in hospitals.This new technique will certainly introduce in various hospitals formaintaining the hospital data.

One of the important functions of every hospital is to process patient's details, doctor's details and appointment's details.

In olden days, the above process was manual. But now a days, many of the hospitals were using software like excel to store and manipulate the above said details.

There are many advantages if we use Python data structure – DataFrame. Some of them are :

- We can export DataFrame into famous format CSV (comma Separated Values).
- We can import DataFrame from CSV file.
- We can export DataFrame into MySQL database.
- We can import DataFrame from MySQL database.
- We can plot the data in charts like bar chart, line chart, etc using matplotlib.

So, I have selected the project "**Hospital Management System**" as my academic Project.

This is a menu drive program.

Initially, the program will ask the user whether want to create initial data or not (Patients details, Doctors details and appointment details). If you are executing for the first time, user should enter “Y”. Then 3 CSV files will be created in D - Drive with initial data. (p11-Patients Details, p12-Doctors Details,p13-Appointments Details).

Then It will display the following 12 options:

1.View All Patient's Details

2.View All Doctor's Details

3.View All Appointment's Details

4.Add a New Patient Details

5.Add a New Doctor Details

6.Add a New Appointment Details

7.Delete a Patient Details

8.Delete a Doctor Details

9.Delete an Appointment Details

10.View In-Patient & Out-Patients Comparison

11.View Doctor Wise Patient Details

12.Exit

The program will repeat till the user selects the option ‘12’-Exit.

I have tried my level best to make this project more and more efficient forpractical use.

SOURCE CODE

```
import matplotlib.pyplot as plt
import pandas as pd
ch=input("Are you using this project for first time/Want to create data freshly? (Y/N)")
if ch=='Y' or ch=='y':
    print("Patient Details DataFrame is being created.....")
pdetails={'PID':[1001,1002,1003,1004,1005],
'PName':['Sankalp Gupta','Pushpa Raj','HasiniThota','RakeshVedhula','Anisha Kolli'],
'Type':['In-Patient','Out-Patient','In-Patient','In-Patient','Out-Patient'],
'Disease':['Chickenpox','ViralRhinitis','Arrhythmia','AppendixCancer','Diabetes']}
pdata=pd.DataFrame(pdetails,index=['P1','P2','P3','P4','P5'])
    print('Patient Details:')
    print("**************************************************")
    print(pdata)
    print("**************************************************")
pdata.to_csv("D:\\p11.csv")
    print("Patients Details CSV - p11 is created\n")
    print("Doctor Details DataFrame is being created.....")
    ddetails={'DID':[101,102,103,104,105],'DName':['Dr.Sahithi','Dr.Karunya','Dr.Rahul','Dr.Divya',
'Dr.Akash'], 'Speciality':['Cardiologist','Oncologist','Pediatrician','ENT','Endocrinologists']}
ddata=pd.DataFrame(ddetails,index=['D1','D2','D3','D4','D5'])
    print("Doctor Details:")
    print("**************************************************")
    print(ddata)
    print("**************************************************")
ddata.to_csv("D:\\p12.csv")
    print("Doctors Details CSV - p12 is created\n")
    print("Appointments DataFrame is being created.....")
    data={'DID':[101,102,103,104,105],'PID':[1003,1004,1001,1002,1005],
'Treatment':['Coronary bypass surgery','Chemotherapy','Zovirax','Saline nasal spray',
```

```
'Bariatricsurgery'],'Type':['In-Patient','In-Patient','In-Patient','Out-Patient','Out-Patient']}
    appointments=pd.DataFrame(data,index=['A1','A2','A3','A4','A5'])
    print("Appointment Details:")
    print("**************************************************")
    print(appointments)
    print("**************************************************")
appointments.to_csv("D:\\p13.csv")
    print("Appointments Details CSV - p13 is created\n")
n=1
while n!=12:
    print(“\nMain Menu”)
    print("\n1.View All Patient\'s Details")
    print("2.View All Doctor\'s Details")
    print("3.View All Appointment\'s Details")
    print("4.Add a New Patient Details")
    print("5.Add a New Doctor Details")
    print("6.Add a New Appointment Details")
    print("7.Delete a Patient Details")
    print("8.Delete a Doctor Details")
    print("9.Delete an Appointment Details")
    print("10.View In-Patient & Out-Patients Comparison")
    print("11.View Doctor Wise Patient Details")
    print("12.Exit")
    n=int(input("Enter your choice: "))
    if n==1:
        print("All Patient\'s Details ")
        df1=pd.read_csv("D:\\p11.csv")
        df1=df1[['PID','PName','Type','Disease']].copy()
        print(df1)
```

```
elif n==2:
        print("All Doctor\'s Details ")
        df2=pd.read_csv("D:\\p12.csv")
        df2=df2[['DID','DName','Speciality']].copy()
        print(df2)
elif n==3:
        print("All Appointment\'s Details ")
        df3=pd.read_csv("D:\\p13.csv")
        df3=df3[['DID','PID','Treatment','Type']].copy()
        print(df3)
elif n==4:
        df1=pd.read_csv("D:\\p11.csv")
        df1=df1[['PID','PName','Type','Disease']].copy()
        print("Present Patients Details....")
        print(df1)
        print("Adding a New Patient\'s Details ")
Pid=int(input("Enter Patient ID: "))
PName=input("Enter Patient Name: ")
        Type=input("Enter Type of Patient: ")
        Disease=input("Enter the Disease Name: ")
        df1.loc[len(df1.index)]=[Pid,PName,Type,Disease]
        df1.to_csv("D:\\p11.csv")
elif n==5:
        df2=pd.read_csv("D:\\p12.csv")
        df2=df2[['DID','DName','Speciality']].copy()
        print("Present Doctors Details....")
        print(df2)
        print("Adding a New Doctor\'s Details")
```

```
        Did=int(input("Enter Doctor ID: "))
DName=input("Enter Doctor Name: ")
        Speciality=input("Enter Doctor\' Speciality: ")
        df2.loc[len(df2.index)]=[Did,DName,Speciality]
        df2.to_csv("D:\\p12.csv")
elif n==6:
        df3=pd.read_csv("D:\\p13.csv")
        df3=df3[['DID','PID','Treatment','Type']].copy()
        print("Present Appointments Details....")
        print(df3)
        print("Adding a New Appointment\'s Details")
ADid=int(input("Enter Doctor ID: "))
APid=int(input("Enter Patient ID: "))
ATreat=input("Enter Treatment: ")
AType=input("Enter Type of Patient: ")
        df3.loc[len(df3.index)]=[ADid,APid,ATreat,AType]
        df3.to_csv("D:\\p13.csv")
elif n==7:
        print("All Patient\'s Details ")
        df1=pd.read_csv("D:\\p11.csv")
        df1=df1[['PID','PName','Type','Disease']].copy()
        print(df1)
        print("Deleting a Patient Details.......")
delpid=int(input("Enter the Patient ID to delete...."))
        todel1=df1[df1['PID']==delpid].index.values
        df1.drop(todel1,inplace=True)
        df1.to_csv("D:\\p11.csv")
        print("One Patient Details Deleted....")
```

```
        print("Present Patient\'s Details")
        print(df1)
    elif n==8:
        print("All Doctor\'s Details ")
        df2=pd.read_csv("D:\\p12.csv")
        df2=df2[['DID','DName','Speciality']].copy()
        print(df2)
        print("Deleting a Doctor Details.....")
    deldid=int(input("Enter the Doctor ID to delete...."))
        todel2=df2[df2['DID']==deldid].index.values
        df2.drop(todel2,inplace=True)
        df2.to_csv("D:\\p12.csv")
        print("One Doctor Details Deleted....")
        print("Present Doctor\'s Details")
        print(df2)
    elif n==9:
        print("All Appointment\'s Details ")
        df3=pd.read_csv("D:\\p13.csv")
        df3=df3[['DID','PID','Treatment','Type']].copy()
        print(df3)
        print("Deleting an Appointment Details")
        deldid2=int(input("Enter the Doctor ID to delete...."))
        todel3=df3[df3['DID']==deldid2].index.values
        df3.drop(todel3,inplace=True)
        df3.to_csv("D:\\p13.csv")
        print("One Appointment Details Deleted....")
        print("Present Appointment\'s Details")
        print(df3)
```

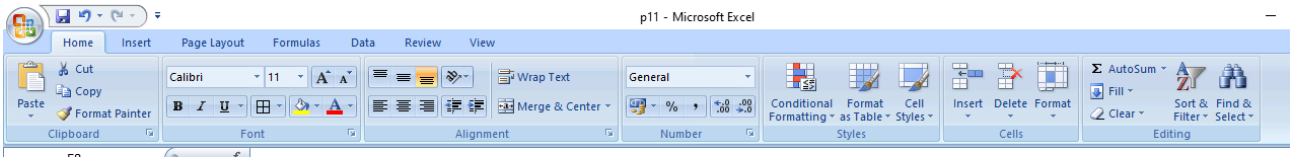
```
elif n==10:
    print("View In-Patient & Out-Patients Comparison")
    df3=pd.read_csv("D:\\p13.csv")
    df3=df3[['DID','PID','Treatment','Type']].copy()
    print(df3)
inp=df3['Type'].value_counts()['In-Patient']
outp=df3['Type'].value_counts()['Out-Patient']
    print("Total Number of In-Patients =",inp)
    print("Total Number of Out-Patients =",outp)
    take1=input("Press Any Key to Continue....")
    X=["In-Patients","Out-Patients"]
    Y=[inp,outp]
plt.bar(X,Y)
plt.xlabel("Patient\'s Type")
plt.ylabel("Number of Patients")
plt.title("Bar Chart Showing Inpatients Outpatients Comparison")
plt.show()
elif n==11:
    print("Doctorwise Patient Details.....")
    df3=pd.read_csv("D:\\p13.csv")
    df3=df3[['DID','PID','Treatment','Type']].copy()
    print(df3)
docpat=df3.groupby(['DID']).size()
    print(docpat)
    X=list(docpat.index.values)
    Y=docpat.values
    print("Doctor - No. of Patients Treatment Details....")
    take2=input("Press Any Key to Continue....")
```

```
plt.bar(X,Y)
plt.xticks(X)
plt.xlabel("Doctor\'s ID")
plt.ylabel("No.of Patients")
plt.title("Bar Chart Showing Doctorwise Patients Treatment Details")
plt.show()
elif n==12:
print("Thank you Dear..for using Hospital Management System Software")
    take3=input("Enter any key to exit the Hospital Management System Software")
    break
```

CSV FILES AFTER INITIAL CREATION

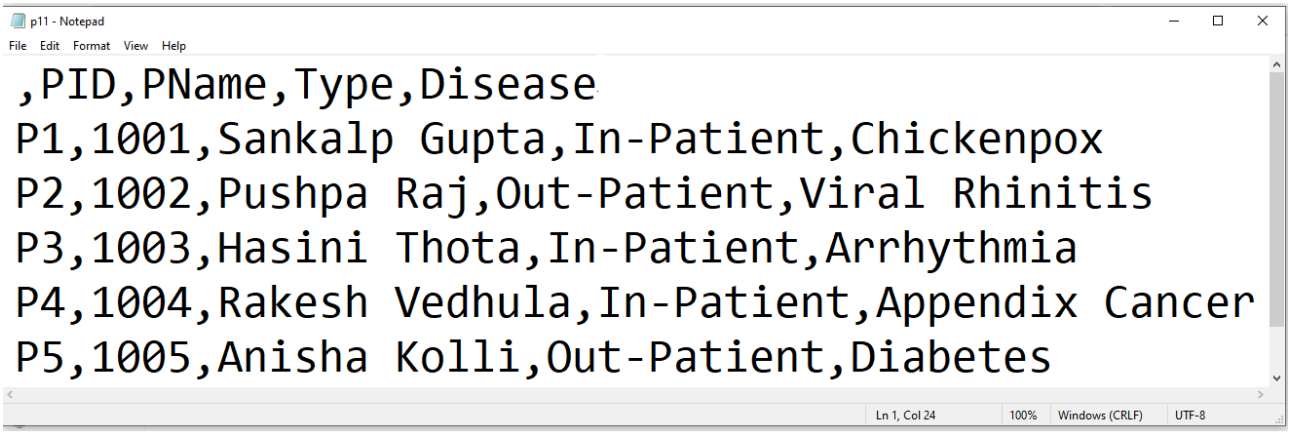
p11.csv file (Opened in Excel)

(Patient’s Details)



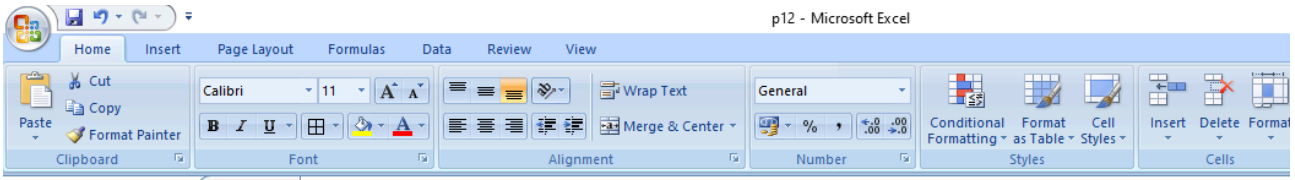
	A	B	C	D	E
1		**PID**	**PName**	**Type**	**Disease**
2	P1	1001	Sankalp Gupta	In-Patient	Chickenpox
3	P2	1002	Pushpa Raj	Out-Patient	Viral Rhinitis
4	P3	1003	Hasini Thota	In-Patient	Arrhythmia
5	P4	1004	Rakesh Vedhula	In-Patient	Appendix Cancer
6	P5	1005	Anisha Kolli	Out-Patient	Diabetes

p11.csv file (Opened in Notepad)



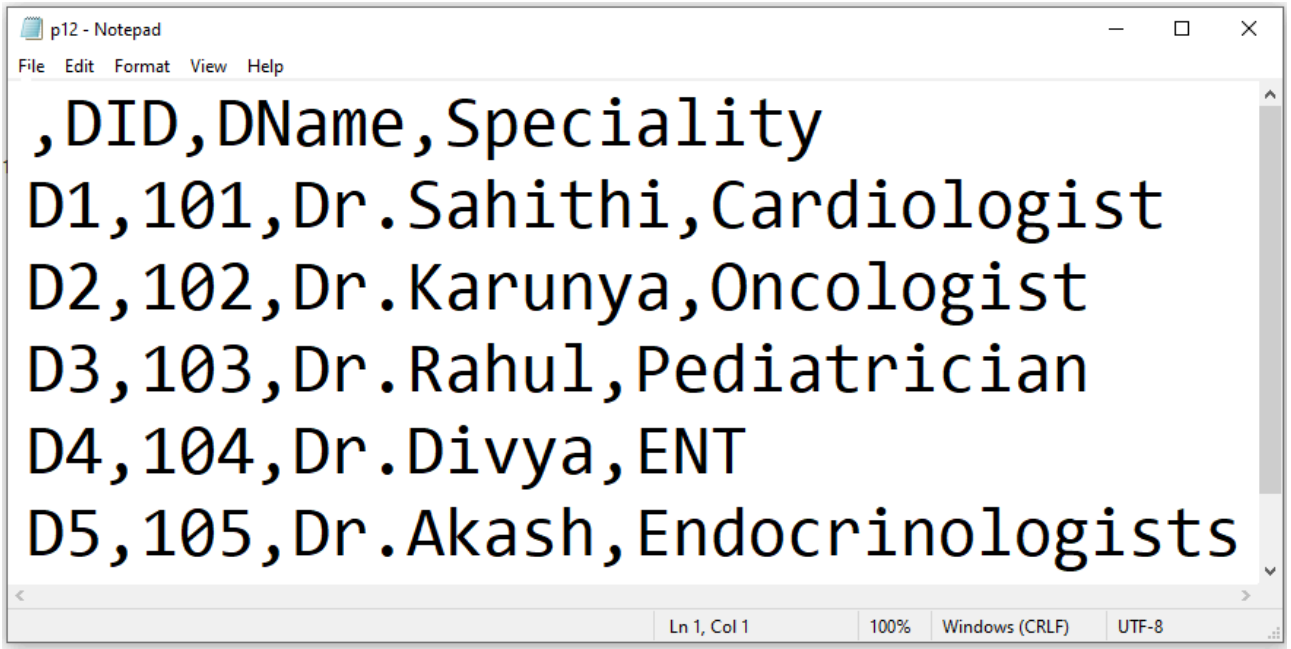
p12.csv file (Opened in Excel)

(Doctor’s Details)



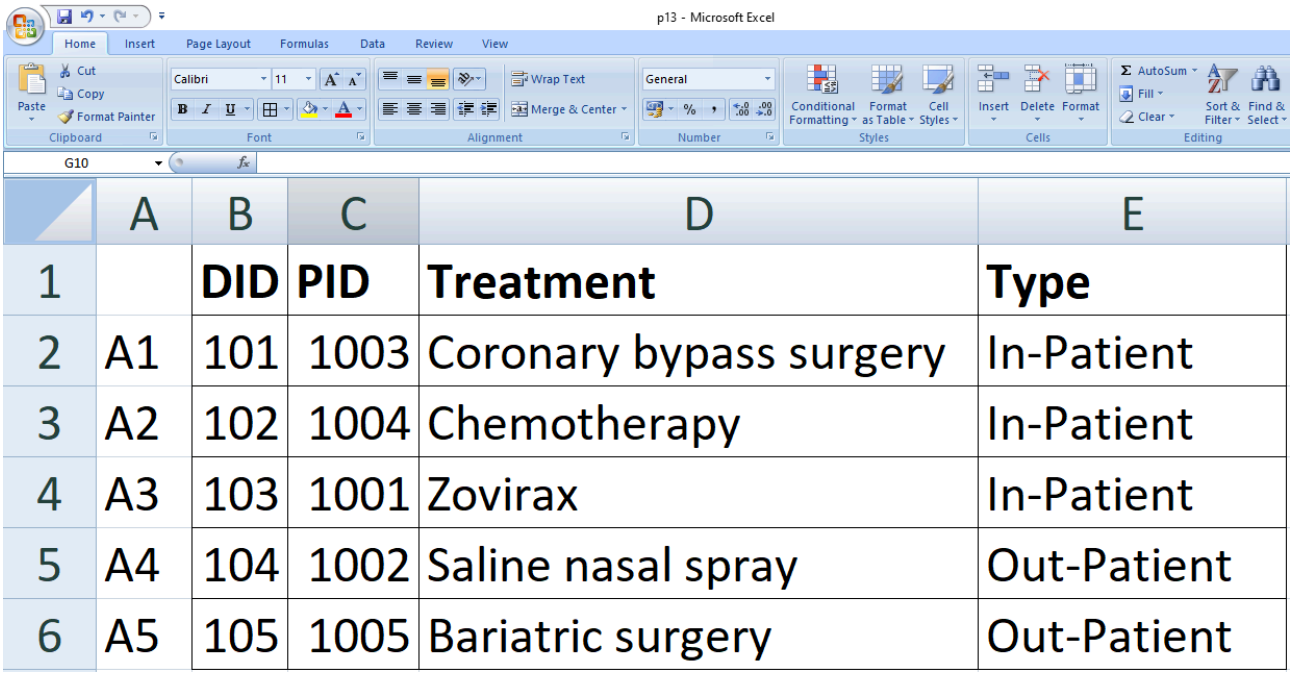
	A	B	C	D
1		**DID**	**DName**	**Speciality**
2	D1	101	Dr.Sahithi	Cardiologist
3	D2	102	Dr.Karunya	Oncologist
4	D3	103	Dr.Rahul	Pediatrician
5	D4	104	Dr.Divya	ENT
6	D5	105	Dr.Akash	Endocrinologists

p12.csv file (Opened in Notepad)



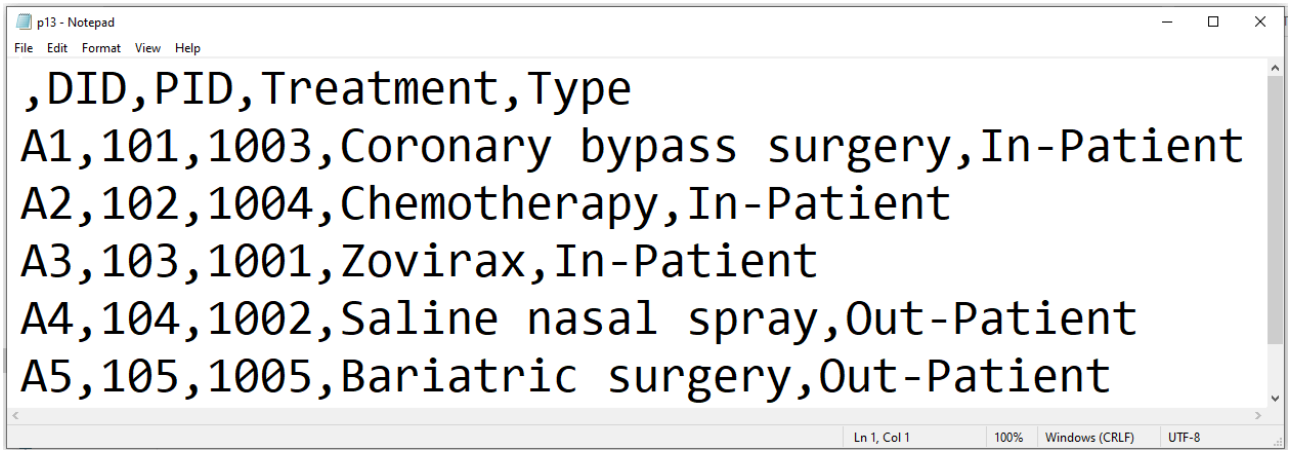
p13.csv file (Opened in Excel)

(Appointment Details)



	A	B	C	D	E
1		**DID**	**PID**	**Treatment**	**Type**
2	A1	101	1003	Coronary bypass surgery	In-Patient
3	A2	102	1004	Chemotherapy	In-Patient
4	A3	103	1001	Zovirax	In-Patient
5	A4	104	1002	Saline nasal spray	Out-Patient
6	A5	105	1005	Bariatric surgery	Out-Patient

p13.csv file (Opened in Notepad)



IMPLEMENTATION
(Output)

Are you using this project for first time/Want to create data freshly? (Y/N)Y

Patient Details DataFrame is being created.....

Patient Details:

****

PID	PName	Type	Disease
P1	1001 Sankalp Gupta	In-Patient	Chickenpox
P2	1002 Pushpa Raj	Out-Patient	Viral Rhinitis
P3	1003 Hasini Thota	In-Patient	Arrhythmia
P4	1004 Rakesh Vedhula	In-Patient	Appendix Cancer
P5	1005 Anisha Kolli	Out-Patient	Diabetes

****

Patients Details CSV - p11 is created

Doctor Details DataFrame is being created.....

Doctor Details:

****

DID	DName	Speciality
D1	101 Dr.Sahithi	Cardiologist
D2	102 Dr.Karunya	Oncologist
D3	103 Dr.Rahul	Pediatrician
D4	104 Dr.Divya	ENT
D5	105 Dr.Akash	Endocrinologists

****

Doctors Details CSV - p12 is created

Appointments DataFrame is being created.....

Appointment Details:

****

DID PID Treatment Type

A1 101 1003 Coronary bypass surgery In-Patient

A2 102 1004 Chemotherapy In-Patient

A3 103 1001 Zovirax In-Patient

A4 104 1002 Saline nasal spray Out-Patient

A5 105 1005 Bariatric surgery Out-Patient

****

Appointments Details CSV - p13 is created

Main Menu

1.View All Patient's Details

2.View All Doctor's Details

3.View All Appointment's Details

4.Add a New Patient Details

5.Add a New Doctor Details

6.Add a New Appointment Details

7.Delete a Patient Details

8.Delete a Doctor Details

9.Delete an Appointment Details

10.View In-Patient & Out-Patients Comparison

11.View Doctor Wise Patient Details

12.Exit

Enter you choice: 1

All Patient's Details

PID PName Type Disease

0 1001 Sankalp Gupta In-Patient Chickenpox

1 1002 Pushpa Raj Out-Patient Viral Rhinitis

2 1003 Hasini Thota In-Patient Arrhythmia

3 1004 Rakesh Vedhula In-Patient Appendix Cancer

4 1005 Anisha Kolli Out-Patient Diabetes

Main Menu

1.View All Patient's Details

2.View All Doctor's Details

3.View All Appointment's Details

4.Add a New Patient Details

5.Add a New Doctor Details

6.Add a New Appointment Details

7.Delete a Patient Details

8.Delete a Doctor Details

9.Delete an Appointment Details

10.View In-Patient & Out-Patients Comparison

11.View Doctor Wise Patient Details

12.Exit

Enter your choice: 2

All Doctor's Details

	DID	DName	Speciality
0	101	Dr.Sahithi	Cardiologist
1	102	Dr.Karunya	Oncologist
2	103	Dr.Rahul	Pediatrician
3	104	Dr.Divya	ENT
4	105	Dr.Akash	Endocrinologists

Main Menu

1.View All Patient's Details

2.View All Doctor's Details

3.View All Appointment's Details

4.Add a New Patient Details

5.Add a New Doctor Details

6.Add a New Appointment Details

7.Delete a Patient Details

8.Delete a Doctor Details

9.Delete an Appointment Details

10.View In-Patient & Out-Patients Comparison

11.View Doctor Wise Patient Details

12.Exit

Enter your choice:3

All Appointment's Details

DID	PID	Treatment	Type
0	101	1003	Coronary bypass surgery	In-Patient
1	102	1004	Chemotherapy	In-Patient
2	103	1001	Zovirax	In-Patient
3	104	1002	Saline nasal spray	Out-Patient
4	105	1005	Bariatric surgery	Out-Patient

Main Menu

1.View All Patient's Details

2.View All Doctor's Details

3.View All Appointment's Details

4.Add a New Patient Details

5.Add a New Doctor Details

6.Add a New Appointment Details

7.Delete a Patient Details

8.Delete a Doctor Details

9.Delete an Appointment Details

10.View In-Patient & Out-Patients Comparison

11.View Doctor Wise Patient Details

12.Exit

Enter your choice: 4

Present Patients Details....

PID	PName	Type	Disease
0	1001	Sankalp Gupta	In-Patient	Chickenpox
1	1002	Pushpa Raj	Out-Patient	Viral Rhinitis
2	1003	Hasini Thota	In-Patient	Arrhythmia
3	1004	Rakesh Vedhula	In-Patient	Appendix Cancer
4	1005	Anisha Kolli	Out-Patient	Diabetes

Adding a New Patient's Details

Enter Patient ID: 1006

Enter Patient Name: Mukesh Kumar

Enter Type of Patient: In-Patient

Enter the Disease Name: BP

Main Menu

1.View All Patient's Details

2.View All Doctor's Details

3.View All Appointment's Details

4.Add a New Patient Details

5.Add a New Doctor Details

6.Add a New Appointment Details

7.Delete a Patient Details

8.Delete a Doctor Details

9.Delete an Appointment Details

10.View In-Patient & Out-Patients Comparison

11.View Doctor Wise Patient Details

12.Exit

Enter your choice: 5

Present Doctors Details....

DID DName Speciality

0 101 Dr.Sahithi Cardiologist

1 102 Dr.Karunya Oncologist

2 103 Dr.RahulPediatrician

3 104 Dr.Divya ENT

4 105 Dr.Akash Endocrinologists

Adding a New Doctor's Details

Enter Doctor ID: 106

Enter Doctor Name: Dr.Lakshmi

Enter Doctor' Speciality: Cardiologist

Main Menu

1.View All Patient's Details

2.View All Doctor's Details

3.View All Appointment's Details

4.Add a New Patient Details

5.Add a New Doctor Details

6.Add a New Appointment Details

7.Delete a Patient Details

8.Delete a Doctor Details

9.Delete an Appointment Details

10.View In-Patient & Out-Patients Comparison

11.View Doctor Wise Patient Details

12.Exit

Enter your choice: 6

Present Appointments Details....

	DID	PID	Treatment	Type
0	101	1003	Coronary bypass surgery	In-Patient
1	102	1004	Chemotherapy	In-Patient
2	103	1001	Zovirax	In-Patient
3	104	1002	Saline nasal spray	Out-Patient
4	105	1005	Bariatric surgery	Out-Patient

Adding a New Appointment's Details

Enter Doctor ID: 106

Enter Patient ID: 1002

Enter Treatment: BP

Enter Type of Patient: In-Patient

Main Menu

1.View All Patient's Details

2.View All Doctor's Details

3.View All Appointment's Details

4.Add a New Patient Details

5.Add a New Doctor Details

6.Add a New Appointment Details

7.Delete a Patient Details

8.Delete a Doctor Details

9.Delete an Appointment Details

10.View In-Patient & Out-Patients Comparison

11.View Doctor Wise Patient Details

12.Exit

Enter your choice: 7

All Patient's Details

PID PName Type Disease

0 1001 Sankalp Gupta In-Patient Chickenpox

1 1002 Pushpa Raj Out-Patient Viral Rhinitis

2 1003 Hasini Thota In-Patient Arrhythmia

3 1004 Rakesh Vedhula In-Patient Appendix Cancer

4 1005 Anisha Kolli Out-Patient Diabetes

5 1006 Mukesh Kumar In-Patient BP

Deleting a Patient Details.....

Enter the Patient ID to delete....1005

One Patient Details Deleted....

Present Patient's Details

PID PName Type Disease

0 1001 Sankalp Gupta In-Patient Chickenpox

1 1002 Pushpa Raj Out-Patient Viral Rhinitis

2 1003 Hasini Thota In-Patient Arrhythmia

3 1004 Rakesh Vedhula In-Patient Appendix Cancer

5 1006 Mukesh Kumar In-Patient BP

Main Menu

1.View All Patient's Details

2.View All Doctor's Details

3.View All Appointment's Details

4.Add a New Patient Details

5.Add a New Doctor Details

6.Add a New Appointment Details

7.Delete a Patient Details

8.Delete a Doctor Details

9.Delete an Appointment Details

10.View In-Patient & Out-Patients Comparison

11.View Doctor Wise Patient Details

12.Exit

Enter your choice: 8

All Doctor's Details

	DID	**DName**	**Speciality**
0	101	Dr.Sahithi	Cardiologist
1	102	Dr.Karunya	Oncologist
2	103	Dr.Rahul	Pediatrician
3	104	Dr.Divya	ENT
4	105	Dr.Akash	Endocrinologists
5	106	Dr.Lakshmi	Cardiologist

Deleting a Doctor Details.....

Enter the Doctor ID to delete....105

One Doctor Details Deleted....

Present Doctor's Details

DID	**DName**	**Speciality**
0	101	Dr.Sahithi	Cardiologist
1	102	Dr.Karunya	Oncologist
2	103	Dr.Rahul	Pediatrician
3	104	Dr.Divya	ENT
5	106	Dr.Lakshmi	Cardiologist

Main Menu

1.View All Patient's Details

2.View All Doctor's Details

3.View All Appointment's Details

4.Add a New Patient Details

5.Add a New Doctor Details

6.Add a New Appointment Details

7.Delete a Patient Details

8.Delete a Doctor Details

9.Delete an Appointment Details

10.View In-Patient & Out-Patients Comparison

11.View Doctor Wise Patient Details

12.Exit

Enter your choice: 9

All Appointment's Details

DID	PID	Treatment	Type
0	101	1003 Coronary bypass surgery	In-Patient
1	102	1004 Chemotherapy	In-Patient
2	103	1001 Zovirax	In-Patient
3	104	1002 Saline nasal spray	Out-Patient
4	105	1005 Bariatric surgery	Out-Patient
5	106	1002 BP	In-Patient

Deleting an Appointment Details

Enter the Doctor ID to delete....105

One Appointment Details Deleted....

Present Appointment's Details

DID	PID	Treatment	Type
0	101	1003 Coronary bypass surgery	In-Patient
1	102	1004 Chemotherapy	In-Patient
2	103	1001 Zovirax	In-Patient
3	104	1002 Saline nasal spray	Out-Patient
5	106	1002 BP	In-Patient

Main Menu

1.View All Patient's Details

2.View All Doctor's Details

3.View All Appointment's Details

4.Add a New Patient Details

5.Add a New Doctor Details

6.Add a New Appointment Details

7.Delete a Patient Details

8.Delete a Doctor Details

9.Delete an Appointment Details

10.View In-Patient & Out-Patients Comparison

11.View Doctor Wise Patient Details

12.Exit

Enter your choice: 10

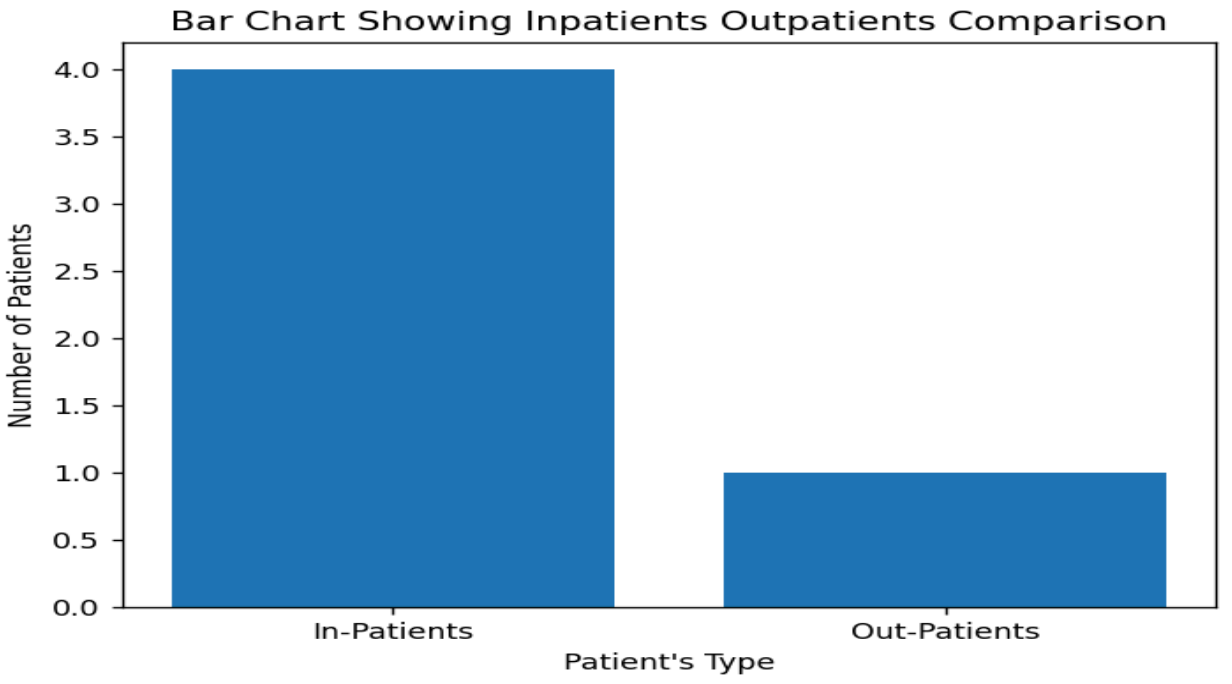
Welcome to option 7

	DID	PID	Treatment	Type
0	101	1003	Coronary bypass surgery	In-Patient
1	102	1004	Chemotherapy	In-Patient
2	103	1001	Zovirax	In-Patient
3	104	1002	Saline nasal spray	Out-Patient
4	106	1002	BP	In-Patient

Total Number of In-Patients = 4

Total Number of Out-Patients = 1

Press Any Key to Continue....



Main Menu

1.View All Patient's Details

2.View All Doctor's Details

3.View All Appointment's Details

4.Add a New Patient Details

5.Add a New Doctor Details

6.Add a New Appointment Details

7.Delete a Patient Details

8.Delete a Doctor Details

9.Delete an Appointment Details

10.View In-Patient & Out-Patients Comparison

11.View Doctor Wise Patient Details

12.Exit

Enter your choice: 6

Present Appointments Details....

	DID	PID	Treatment	Type
0	101	1003	Coronary bypass surgery	In-Patient
1	102	1004	Chemotherapy	In-Patient
2	103	1001	Zovirax	In-Patient
3	104	1002	Saline nasal spray	Out-Patient
4	106	1002	BP	In-Patient

Adding a New Appointment's Details

Enter Doctor ID: 101

Enter Patient ID: 103

Enter Treatment: BP

Enter Type of Patient: Out-Patient

Main Menu

1.View All Patient's Details
2.View All Doctor's Details
3.View All Appointment's Details

4.Add a New Patient Details

5.Add a New Doctor Details

6.Add a New Appointment Details

7.Delete a Patient Details

8.Delete a Doctor Details

9.Delete an Appointment Details

10.View In-Patient & Out-Patients Comparison

11.View Doctor Wise Patient Details

12.Exit

Enter your choice: 11

Doctorwise Patient Details.....

	DID	PID	Treatment	Type
0	101	1003	Coronary bypass surgery	In-Patient
1	102	1004	Chemotherapy	In-Patient
2	103	1001	Zovirax	In-Patient
3	104	1002	Saline nasal spray	Out-Patient
4	106	1002	BP	In-Patient
5	101	103	BP	Out-Patient

DID

101 2

102 1

103 1

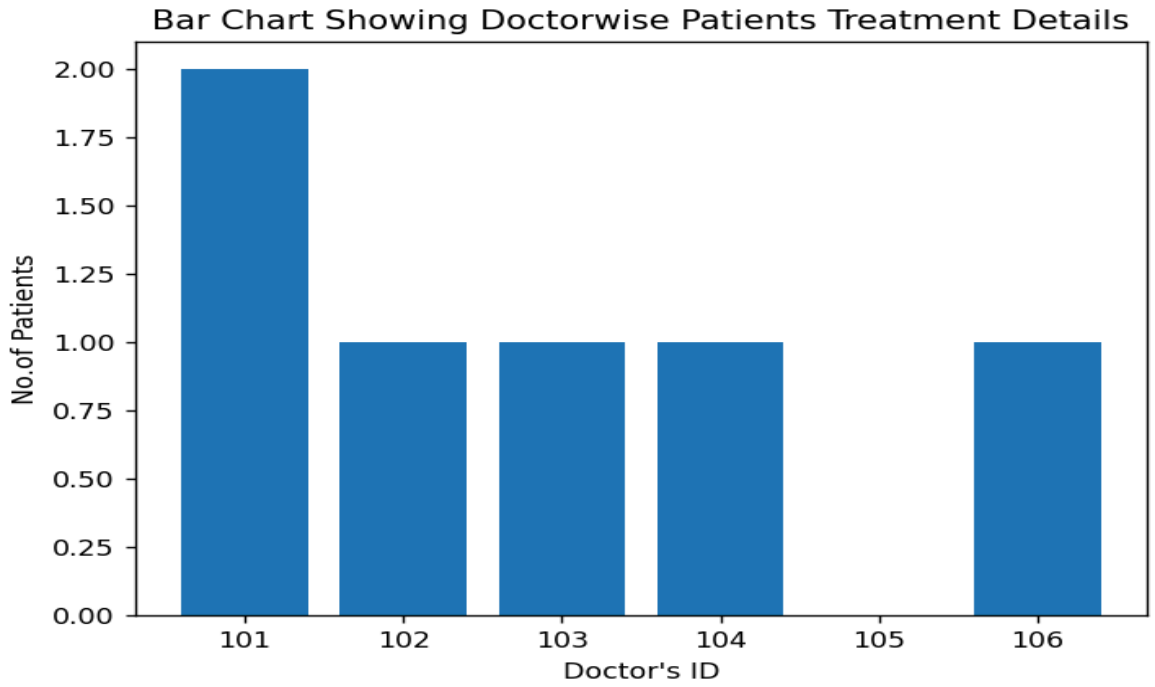
104 1

106 1

dtype: int64

Doctor - No. of Patients Treatment Details....

Press Any Key to Continue....



Main Menu

1.View All Patient's Details

2.View All Doctor's Details

3.View All Appointment's Details

4.Add a New Patient Details

5.Add a New Doctor Details

6.Add a New Appointment Details

7.Delete a Patient Details

8.Delete a Doctor Details

9.Delete an Appointment Details

10.View In-Patient & Out-Patients Comparison

11.View Doctor Wise Patient Details

12.Exit

Enter your choice: 12

Thank you Dear..for using Hospital Management System Software

Enter any key to exit the Hospital Management System Software

CONCLUSION

This project entitled "**Hospital Management System**" uses the dataframes operations like inserting new data into dataframes, deleting data from dataframes, displaying data of dataframes, etc.

This project also uses the concept of Importing data from a CSV file and exporting dataframe to a CSV.

This project given me knowledge of "implementation of python concepts", which I have learned in class XI and XII.

This project can be extended to medical test details of the patients, medicine details of the patients, etc.

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