INTRODUCTION

Purpose: This project can store information about student. We can easily search student record, modify and delete the record. It is the automated version of manual work. We can easily access any student information anytime and can be kept safely for long period of time. The purpose of this project is to provide a system that saves time and efforts of school to locate student information.

Software Used:

Operating System: Windows 10

Front End Development (GUI):

Python IDLE

Back End :

CSV File

Technology Used: Programming Language: Python .

Python Libraries Used:

Pandas:

It is a most famous Python package for data science, which offers powerful and flexible data structures that make data analysis and manipulation easy. Pandas makes data importing and data analysing much easier. Pandas builds on packages like NumPy and matplotlib to give us a single & convenient place for data analysis and visualization work.

Two important data structures of pandas are–Series and DataFrame.

1. **Series:** Series is like a one-dimensional array like structure with homogeneous data.
2. **DataFrame**: DataFrame is like heterogeneous data.

Matplotlib:

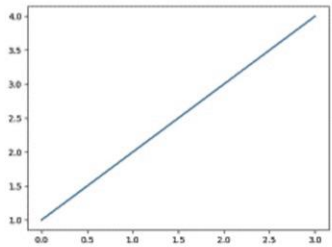
- Matplotlib is a Python graphing and plotting library that can generate a variety of different types of graph or chart in a variety of different formats.
- It can be used to generate line charts, scatter graphs, histogram, bar charts and pie charts.
- It can also generate output graphics in a variety of different formats including PNG, JPEG, SVG and PDF etc.

PyPlot: The pyplot interface is the simplest and most common way in which a programmer interacts with Matplotlib. It allows user to construct 2D plots easily and interactively.

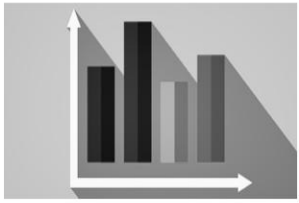
The plyplot Interface can be used to

- construct the plot,
- configure labels and axis,
- manage color and line styles,
- display (show) the plot.

Line Graph: A Line Graph or Line Plot is a graph with the points on the graph (often referred to as markers) connected by lines to show how something changes in value as some set of values changes;The line chart is represented by a series of data points connected by a straight line.



Bar Charts: A Bar Chart is a type of chart or graph that is used to present different discrete categories of data. The data is usually presented vertically although in some cases horizontal bar charts may be used. Each category is represented by a bar whose height (or length) represents the data for that category.



BIBLIOGRAPHY

References: NCERT Book

Websites:

- Google Search Engines
- www.python.org
- www.tutorialpoint.com

OUTPUT

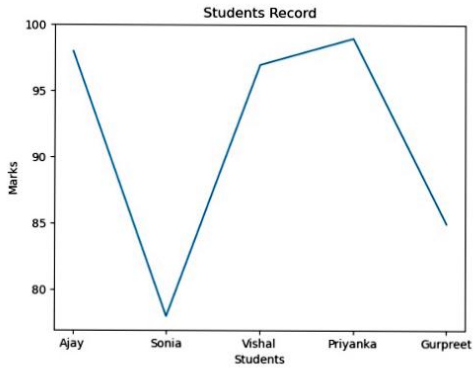
```
------------------------------------------------------------
*****Student Managment System*****
------------------------------------------------------------
1. Read the CSV File
2. Display Data
3. Search a particular student record
4. To add new record
5. Delete Record
6. Modify Record
7. Save Record
8. Display Marks of students using line graph
9. Display Marks of students using bar graph
Enter your choice=1
File Open
Press y to continue.....y

1. Read the CSV File
2. Display Data
3. Search a particular student record
4. To add new record
5. Delete Record
6. Modify Record
7. Save Record
8. Display Marks of students using line graph
9. Display Marks of students using bar graph
Enter your choice=2
   Rollno     Name     Address  Marks
0       1     Ajay       Delhi     98
1       2    Sonia   Jalandhar     78
2       3    Vishal  Chandigarh     97
3       4  Priyanka      Ambala     99
4       5  Gurpreet      Shimla     85
Press y to continue.....y
```

1. Read the CSV File
2. Display Data
3. Search a particular student record
4. To add new record
5. Delete Record
6. Modify Record
7. Save Record
8. Display Marks of students using line graph
9. Display Marks of students using bar graph

Enter your choice=8

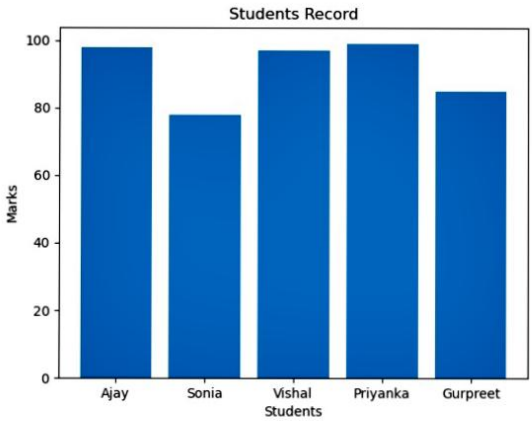
Press y to continue.....y



Press y to continue.....y

1. Read the CSV File
2. Display Data
3. Search a particular student record
4. To add new record
5. Delete Record
6. Modify Record
7. Save Record
8. Display Marks of students using line graph
9. Display Marks of students using bar graph

Enter your choice=9



SOURCE CODE

```
"""
Project on Student Management System
Developed by: Army Public School, Jalandhar
Dated:
"""
#Pandas library to use dataframe
import pandas as pd
#matplotlib library to use line graph and bar chart
import matplotlib.pyplot as pl
ch='y'
print("----------------------------------------")
print("*****Student Management System*****")
print("----------------------------------------")
#While loop to continue program and Program Menu
while ch=='y' or ch=='Y':
    print("1. Read the CSV File")
    print("2. Display Data")
    print("3. Search a particular student record")
    print("4. To add new record")
    print("5. Delete Record")
    print("6. Modify Record")
    print("7. Save Record")
    print("8. Display Marks of students using line graph")
    print("9. Display Marks of students using bar graph")

#User will enter choice to proceed
    choice=int(input("Enter your choice="))
    if choice==1:
        df=pd.read_csv("record.csv")
        print("File Open")
    elif choice==2:
        print(df)
    elif choice==3:
        rno=int(input("Enter Rollno="))
        if df[df.Rollno==rno].empty:
            print("Record Not found")
        else:
            print(df[df.Rollno==rno])
```

```
elif choice==4:
    rno=int(input("Enter Rollno="))
    sname=input("Enter Student Name=")
    add=input("Enter Address=")
    marks=int(input("Enter Marks percentage="))
    df=df.append({'Rollno':rno,'Name':sname,'Address':add,'Marks':marks},ignore_index=True)
    print('Record added')
elif choice==5:
    rno=int(input("Enter rollno to delete record="))
    if df[df.Rollno==rno].empty:
        print("Record Not found")
    else:
        print(df[df.Rollno==rno])
        df=df[df['Rollno']!=rno]
        print("Record Deleted")
elif choice==6:
    rno=int(input("Enter rollno to modify"))
    inx=df[df.Rollno==rno].index.values
    if df[df.Rollno==rno].empty:
        print("Record Not found")
    else:
        print(df[df.Rollno==rno])
        sname=input("Enter Student Name=")
        add=input("Enter Address=")
        marks=int(input("Enter Marks="))
        df.loc[inx,'Name']=sname
        df.loc[inx,'Address']=add
        df.loc[inx,'Marks']=marks
        print('Record updated')
elif choice==7:
    df.to_csv('record.csv',index=False)
    print('Record Saved')
elif choice==8:
    pl.ylabel("Marks")
    pl.xlabel("Students")
    pl.plot(df['Name'],df['Marks'])
    pl.title("Students Record")
    pl.show()
elif choice==9:
    pl.ylabel("Marks")
    pl.xlabel("Students")
    pl.bar(df['Name'],df['Marks'])
    pl.title("Students Record")
    pl.show()
else:
    print("Wrong Input")
ch=input("Press y to continue.....")
```