ASSIGNMENT4

November 9, 2020

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CLASS:SY MCA
ROLL NO:12

1 Create a GUI to enter, Name, Roll Number, GR Number and Phone number of a student. Use Tkinter and Dictonary concept

```python
[5]: def filewrite():
    file1 = open(r"D:\\StudDetails.txt","a+")
    if (entry_1.get() == "" and entry_2.get() == "" ):
        print("empty input")

    else:
        file1.writelines('\nName:')
        file1.writelines(entry_1.get())
        file1.writelines('\nRoll No.:')
        file1.writelines(entry_2.get())
        file1.writelines('\nGR. No.:')
        file1.writelines(entry_3.get())
        file1.writelines('\nPhone No.:')
        file1.writelines(entry_4.get())

    file1.close()

from tkinter import *

root = Tk()

var = IntVar()
var.set(1)

root.geometry('500x500')
root.title("Student Form")

label_0 = Label(root, text="Enter Student Details",width=20,font=("bold", 20))
label_0.place(x=90,y=53)
```

```
label_1 = Label(root, text="Name",width=20,font=("bold", 10))
label_1.place(x=80,y=130)

entry_1 = Entry(root)
entry_1.place(x=240,y=130)

label_2 = Label(root, text="RollNo.",width=20,font=("bold", 10))
label_2.place(x=68,y=180)

entry_2 = Entry(root)
entry_2.place(x=240,y=180)

label_3 = Label(root, text="GR. No.",width=20,font=("bold", 10))
label_3.place(x=70,y=230)
var = IntVar()

entry_3 = Entry(root)
entry_3.place(x=235,y=230)

label_4 = Label(root, text="Phone Number",width=20,font=("bold", 10))
label_4.place(x=70,y=280)

entry_4 = Entry(root)
entry_4.place(x=240,y=280)

Button(root, text='Submit',width=20,bg='brown',fg='white',command=filewrite).
  ↪place(x=180,y=380)


root.mainloop()
```

1.1 ScreenShot

```
[9]: from IPython.display import Image
     Image(filename='ass4-1.png',width=800, height=400)
```

[9]:

2 Learn to plot different types of graphs using PyPlot.

2.1 Histogram

```
[10]: # import pandas and matplotlib
      import pandas as pd
      import matplotlib.pyplot as plt

      # create 2D array of table given above
      data = [['E001', 'M', 34, 123, 'Normal', 350],
              ['E002', 'F', 40, 114, 'Overweight', 450],
              ['E003', 'F', 37, 135, 'Obesity', 169],
              ['E004', 'M', 30, 139, 'Underweight', 189],
              ['E005', 'F', 44, 117, 'Underweight', 183],
```

```
            ['E006', 'M', 36, 121, 'Normal', 80],
            ['E007', 'M', 32, 133, 'Obesity', 166],
            ['E008', 'F', 26, 140, 'Normal', 120],
            ['E009', 'M', 32, 133, 'Normal', 75],
            ['E010', 'M', 36, 133, 'Underweight', 40] ]

# dataframe created with
# the above data array
df = pd.DataFrame(data, columns = ['EMPID', 'Gender',
                                   'Age', 'Sales',
                                   'BMI', 'Income'] )

# create histogram for numeric data
df.hist()

# show plot
plt.show()
```
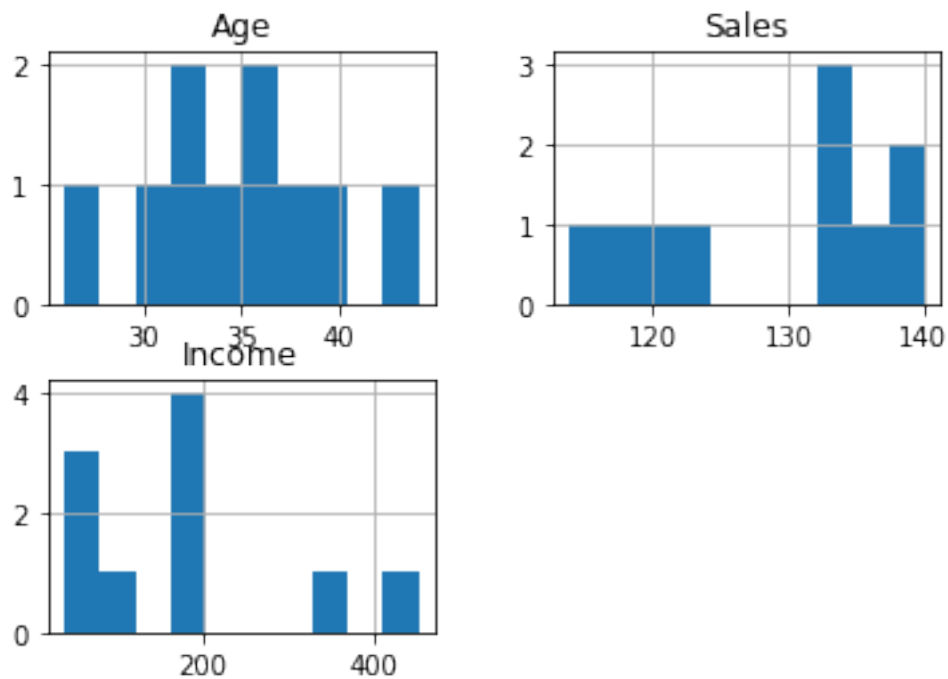

2.2 Column Chart
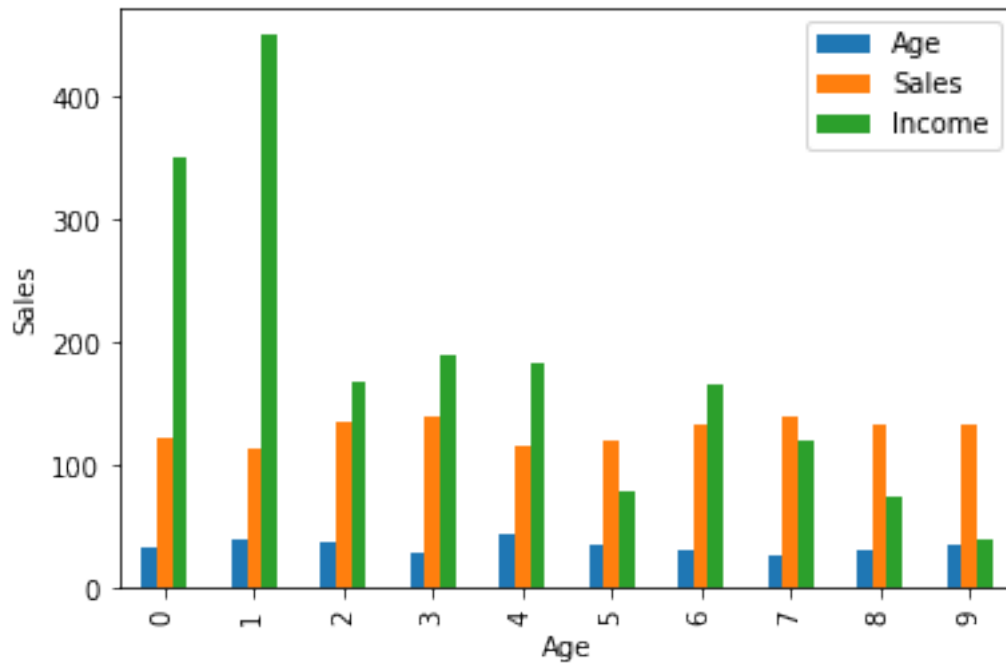
```
[11]:  # Dataframe of previous code is used here

       # Plot the bar chart for numeric values
       # a comparison will be shown between
```
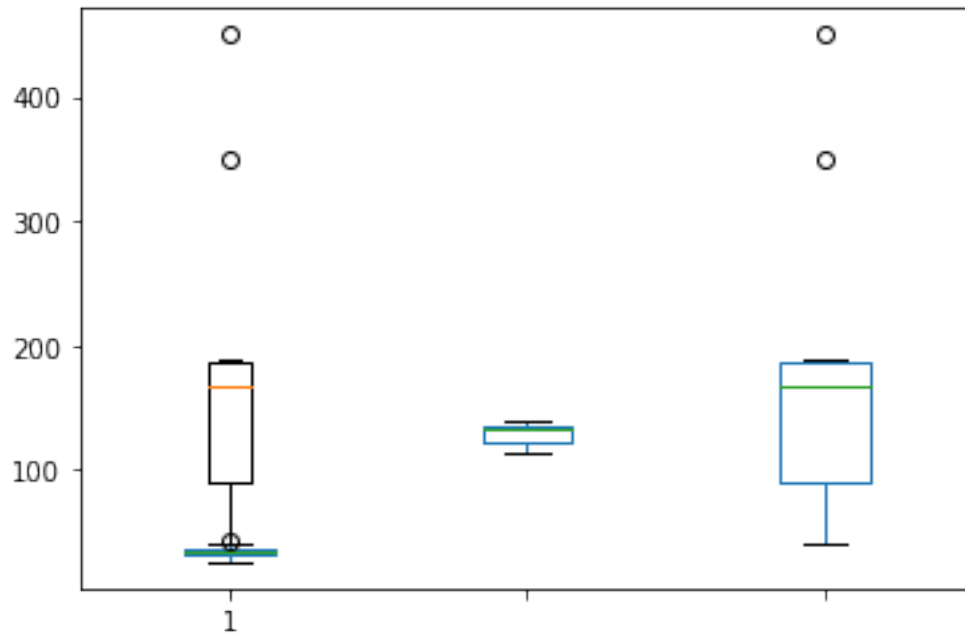
```
# all 3 age, income, sales
df.plot.bar()

# plot between 2 attributes
plt.bar(df['Age'], df['Sales'])
plt.xlabel("Age")
plt.ylabel("Sales")
plt.show()
```


2.3   Box plot chart

```
[12]: # For each numeric attribute of dataframe
      df.plot.box()

      # individual attribute box plot
      plt.boxplot(df['Income'])
      plt.show()
```
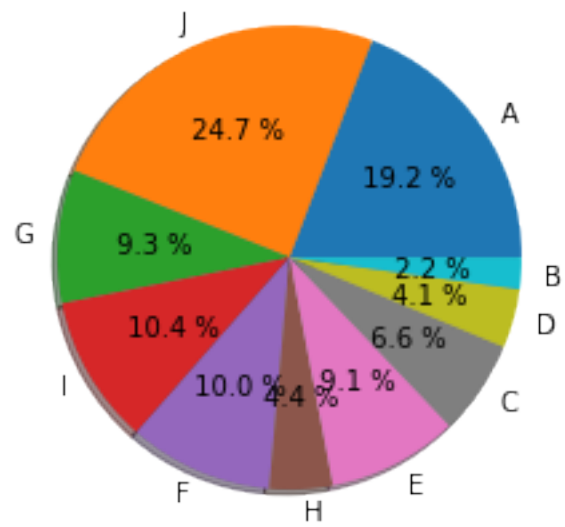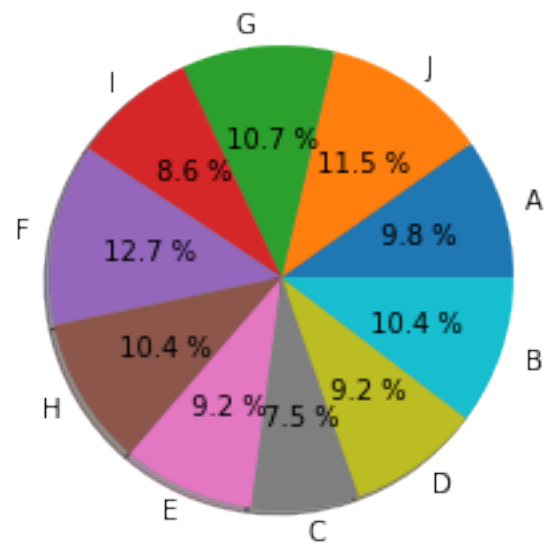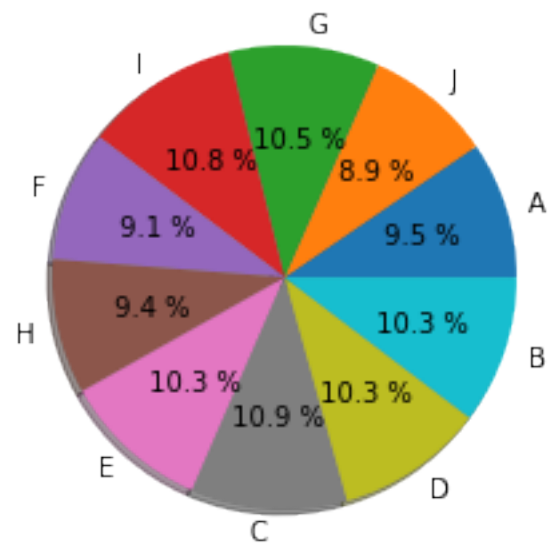
2.4 Pie Chart

```
[13]: plt.pie(df['Age'], labels = {"A", "B", "C",
                                        "D", "E", "F",
                                        "G", "H", "I", "J"},

      autopct ='% 1.1f %%', shadow = True)
      plt.show()

      plt.pie(df['Income'], labels = {"A", "B", "C",
                                            "D", "E", "F",
                                            "G", "H", "I",␣
       ↪"J"},

      autopct ='% 1.1f %%', shadow = True)
      plt.show()

      plt.pie(df['Sales'], labels = {"A", "B", "C",
                                          "D", "E", "F",
                                          "G", "H", "I", "J"},
      autopct ='% 1.1f %%', shadow = True)
      plt.show()
```

[ ]: