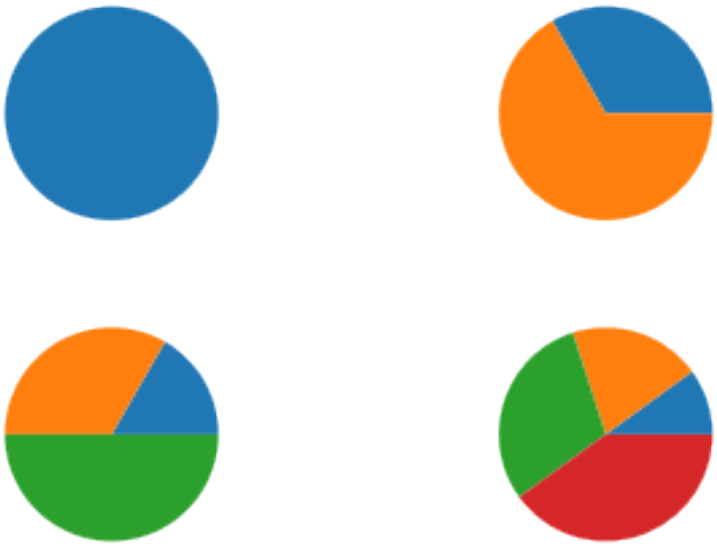
Matplotlib Tutorial Part - 10

SubPlot

```
import matplotlib.pyplot as plt
import numpy as np
import pandas as pd
import random
from matplotlib import style

plt.subplot(2,2,1)
plt.pie([1])

plt.subplot(2,2,2)
plt.pie([1,2])

plt.subplot(2,2,3)
plt.pie([1,2,3])

plt.subplot(2,2,4)
plt.pie([1,2,3,4])

plt.show()
```

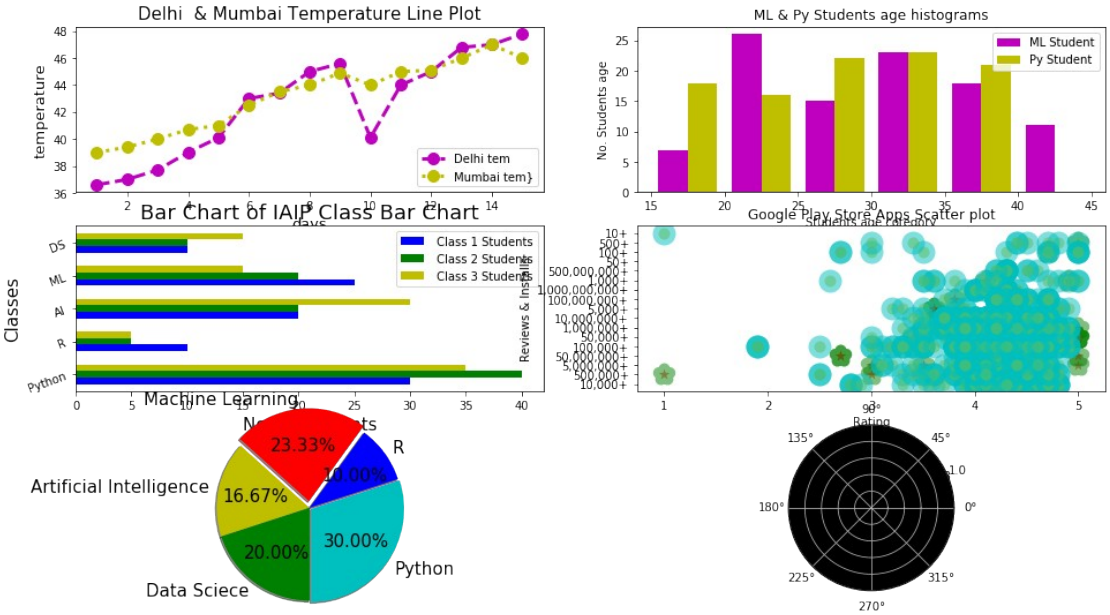


```
plt.figure(figsize=(16,9))

##----------------------------------------start
#plt.subplot(3,2,1)
plt.subplot(321)
```

```
#*****************************************Line Plot
days = [1,2,3,4,5,6,7,8,9,10,11,12,13,14,15]
delhi_tem = [36.6, 37,
37.7,39,40.1,43,43.4,45,45.6,40.1,44,45,46.8,47,47.8]
mumbai_tem =
[39,39.4,40,40.7,41,42.5,43.5,44,44.9,44,45,45.1,46,47,46]

plt.plot(days, delhi_tem, "mo--", linewidth = 3,
        markersize = 10, label = "Delhi tem")

plt.plot(days, mumbai_tem, "yo:", linewidth = 3,
        markersize = 10, label = "Mumbai tem}")

plt.title("Delhi  & Mumbai Temperature Line Plot", fontsize=15)
plt.xlabel("days",fontsize=13)
plt.ylabel("temperature",fontsize=13)
plt.legend(loc = 4)
plt.grid(color='w', linestyle='-', linewidth=2)

#-------------------------------------------------------------end

plt.subplot(3,2,2) ##-------------------------------------------------
start
#*************************************************************histo
grams
ml_students_age = np.random.randint(18,45, (100))
py_students_age = np.random.randint(15,40, (100))
bins = [15,20,25,30,35,40,45]

plt.hist([ml_students_age, py_students_age], bins, rwidth=0.8,
histtype = "bar",
         orientation='vertical', color = ["m", "y"], label = ["ML
Student", "Py Student"])

plt.title("ML & Py Students age histograms")
plt.xlabel("Students age cotegory")
plt.ylabel("No. Students age")
plt.legend()
#-------------------------------------------------------------------
-end

plt.subplot(3,2,3) ##-----------------------------------------------start
#*********************************************************Bar Chart
classes = ["Python", "R", "AI", "ML", "DS"]
class1_students = [30, 10, 20, 25, 10] # out of 100 student in each
class
class2_students = [40, 5, 20, 20, 10]
class3_students = [35, 5, 30, 15, 15]
classes_index = np.arange(len(classes))
```

```
width = 0.2

plt.barh(classes_index, class1_students, width , color = "b",
        label =" Class 1 Students") #visible=False

plt.barh(classes_index + width, class2_students, width , color = "g",
        label =" Class 2 Students")

plt.barh(classes_index + width + width, class3_students, width , color
= "y",
        label =" Class 3 Students")

plt.yticks(classes_index + width, classes, rotation = 20)
plt.title("Bar Chart of IAIP Class Bar Chart", fontsize = 18)
plt.ylabel("Classes",fontsize = 15)
plt.xlabel("No. of Students", fontsize = 15)
plt.legend()
#-----------------------------------------------------------------
end

plt.subplot(3,2,4) ##-----------------------------------------------
start
#************************************************************Scatter
Plot
df_google_play_store_apps = pd.read_csv("D:\\Private\Indina AI
Production\Kaggel Dataset\google-play-store-apps\googleplaystore.csv",
nrows = 1000)

x = df_google_play_store_apps["Rating"]
y = df_google_play_store_apps["Reviews"]
plt.scatter(x,y, c = "r", marker = "*", s = 100, alpha=0.5,
linewidths=10,
           edgecolors="g" )#verts="<"

plt.scatter(x,df_google_play_store_apps["Installs"], c = "y", marker =
"o", s = 100, alpha=0.5, linewidths=10,
           edgecolors="c" )
plt.title("Google Play Store Apps Scatter plot")
plt.xlabel("Rating")
plt.ylabel("Reviews & Installs")
#-----------------------------------------------------------------
-end


plt.subplot(3,2,5) ##-----------------------------------------start
#************************************************************Pie plot
classes = ["Python", 'R', 'Machine Learning', 'Artificial
Intelligence',
```

```
           'Data Sciece']
class1_students = [45, 15, 35, 25, 30]
explode = [0.03,0,0.1,0,0]
colors = ["c", 'b','r','y','g']
textprops = {"fontsize":15}

plt.pie(class1_students,
        labels = classes,
        explode = explode,
        colors =colors,
        autopct = "%0.2f%%",
        shadow = True,
        radius = 1.4,
       startangle = 270,
        textprops =textprops)
#-------------------------------------------------------------end


plt.subplot(3,2,6, projection='polar', facecolor='k' ,frameon=True)

plt.show()
```




```
print("Thank you")
```

```
Thank you
```