Assignment ---matplotlib

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Scipy:

We have the min and max temperatures in a city In India for each months of the year. We would like to find a function to describe this and show it graphically, the dataset given below.

Task:

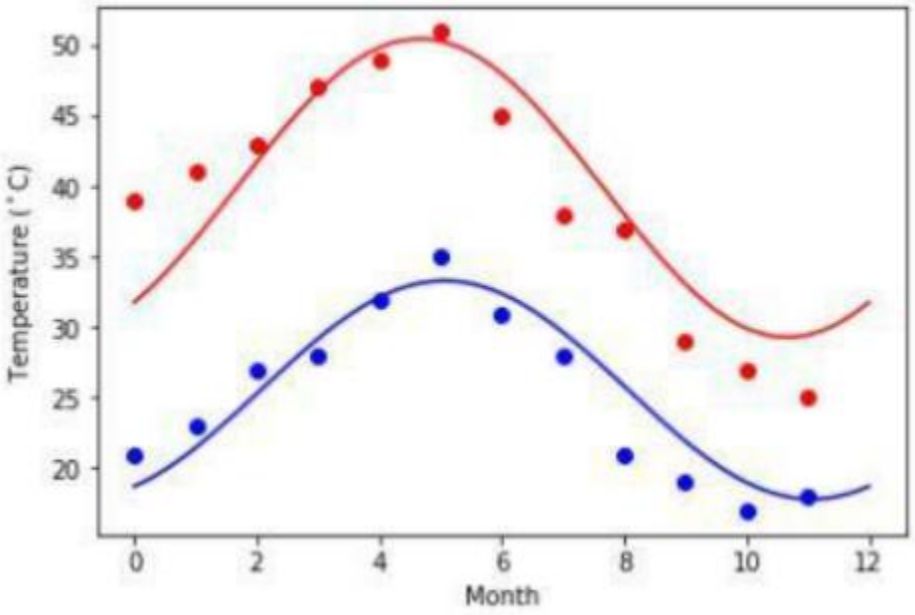
1. fitting it to the periodic function
2. plot the fit

Data

Max = 39, 41, 43, 47, 49, 51, 45, 38, 37, 29, 27, 25

Min = 21, 23, 27, 28, 32, 35, 31, 28, 21, 19, 17, 18

Expected Output:



Matplotlib:

This assignment is for visualization using matplotlib:

data to use:

url=https://raw.githubusercontent.com/Geoyi/Cleaning-Titanic-Data/master/titanic_original.csv

```
titanic = pd.read_csv(url)
```

Charts to plot:

1. Create a pie chart presenting the male/female proportion

2. Create a scatterplot with the Fare paid and the Age, differ the plot color by gender

```
[22] titanic = pd.read_csv("https://raw.githubusercontent.com/Geoyi/Cleaning-Titanic-Data/master/titanic_original.csv")
```

```
[23] titanic.head()
```

	pclass	survived	name	sex	age	sibsp	parch	ticket	fare	cabin	embarked	boat	body	home.dest
0	1.0	1.0	Allen, Miss. Elisabeth Walton	female	29.0000	0.0	0.0	24160	211.3375	B5	S	2	NaN	St Louis, MO
1	1.0	1.0	Allison, Master. Hudson Trevor	male	0.9167	1.0	2.0	113781	151.5500	C22 C26	S	11	NaN	Montreal, PQ / Chesterville, ON
2	1.0	0.0	Allison, Miss. Helen Loraine	female	2.0000	1.0	2.0	113781	151.5500	C22 C26	S	NaN	NaN	Montreal, PQ / Chesterville, ON
3	1.0	0.0	Allison, Mr. Hudson Joshua Creighton	male	30.0000	1.0	2.0	113781	151.5500	C22 C26	S	NaN	135.0	Montreal, PQ / Chesterville, ON
4	1.0	0.0	Allison, Mrs. Hudson J C (Bessie Waldo Daniels)	female	25.0000	1.0	2.0	113781	151.5500	C22 C26	S	NaN	NaN	Montreal, PQ / Chesterville, ON

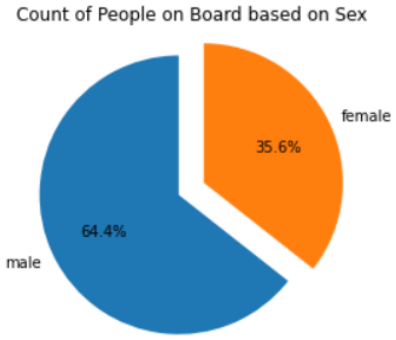
```
[26] sexdata = titanic.groupby(['sex']).size()
     sexdata
```

```
sex
female    466
male      843
dtype: int64
```

```
[40] count =[]
     count.append({'sex':'male','count':sexdata.male})
     count.append({'sex':'female','count':sexdata.female})
     df = pd.DataFrame(count)
     df = df[['sex','count']]
     df
     # type(df)
```

	sex	count
0	male	843
1	female	466

```
ax1,fig1 = plt.subplots()
fig1.pie(df['count'],explode=[0.1,0.1], labels=(df['sex']), autopct='%1.1f%%',startangle=90)
# fig1.pie(df['count'],labels = Labels)
fig1.axis('equal')
pie = plt.title("Count of People on Board based on Sex")
plt.show()
```




```
[52] g = sns.FacetGrid(titanic, hue="survived", col="sex", margin_titles=True,
                       palette="Set1",hue_kws=dict(marker=["^", "v"]))
     g.map(plt.scatter, "fare", "age",edgecolor="w").add_legend()
     plt.subplots_adjust(top=0.8)
     g.fig.suptitle('Survival by Gender , Age and Fare');
```