In [214]:

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```

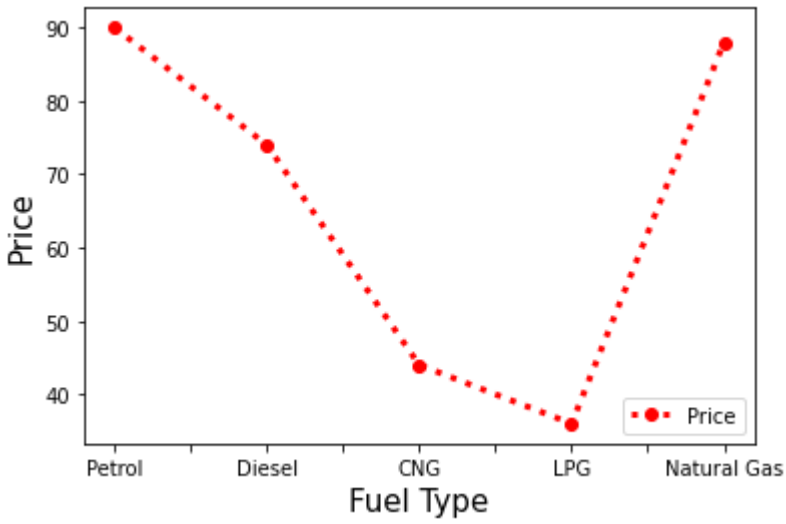
1. Write a Python Program to Get Total Price of all FuelType and show it using a line plot with the following Style properties

Generated line plot must include following Style properties: –

- Line Style dotted and Line-color should be red
- Show legend at the lower right location.
- X label name = Fuel Type
- Y label name = Price
- Add a circle marker.
- Line marker color as red
- Line width should be 3

In [2]:

```
df1 = pd.DataFrame({ "fuel type":['Petrol','Diesel','CNG','LPG','Natural Gas'],"Price":[90,
df1.plot("fuel type","Price",color="r",marker="o",linewidth=3,linestyle=":")
plt.xlabel("Fuel Type",fontsize=15)
plt.ylabel("Price",fontsize=15)
plt.legend(loc='lower right')
plt.show()
```



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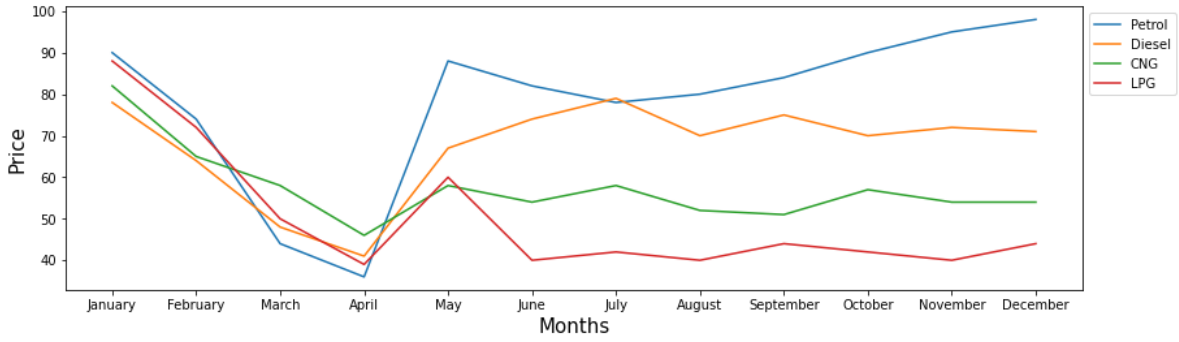
2. Write a Python Program to Read all product sales data and show it using a multiline plot.

In [191]:

```
df3=pd.read_csv("C:\\Users\\HP\\Desktop\\fuel type.csv")
```

In [195]:

```
fig=plt.figure(figsize=(14,4))
ax1=plt.subplot()
ax1.plot(df3.Month,df3.Petrol,label='Petrol')
ax1.plot(df3.Month,df3.Diesel,label='Diesel')
ax1.plot(df3.Month,df3.CNG,label='CNG')
ax1.plot(df3.Month,df3.LPG,label='LPG')
ax1.legend(bbox_to_anchor=(1,1))
plt.xlabel("Months",fontsize=15)
plt.ylabel("Price",fontsize=15)
plt.show()
```



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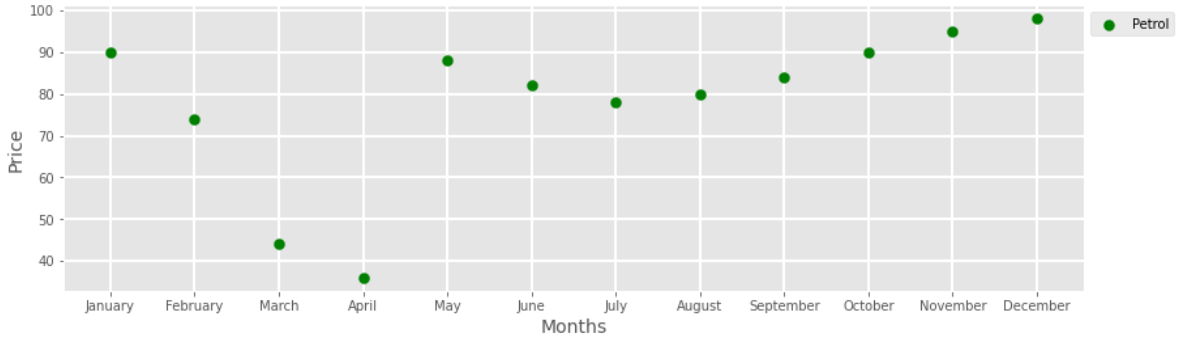
3. Write a Python Program to Read 'Petrol' sales data of each month and show it using a scatter plot.

In [279]:

```
df3=pd.read_csv("C:\\Users\\HP\\Desktop\\fuel type.csv")
```

In [310]:

```
from matplotlib import style
df3.plot.scatter('Month','Petrol',color='g',label='Petrol',figsize=(14,4),linewidth=4)
plt.xlabel('Months',fontsize=14)
plt.ylabel('Price',fontsize=14)
plt.legend(bbox_to_anchor=(1,1))
plt.grid(linestyle='-',linewidth=2)
plt.show()
```



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4. Write a Python Program to Read 'Petrol' and 'CNG' FuelType sales data and show it using the Heatmap.

In [265]:

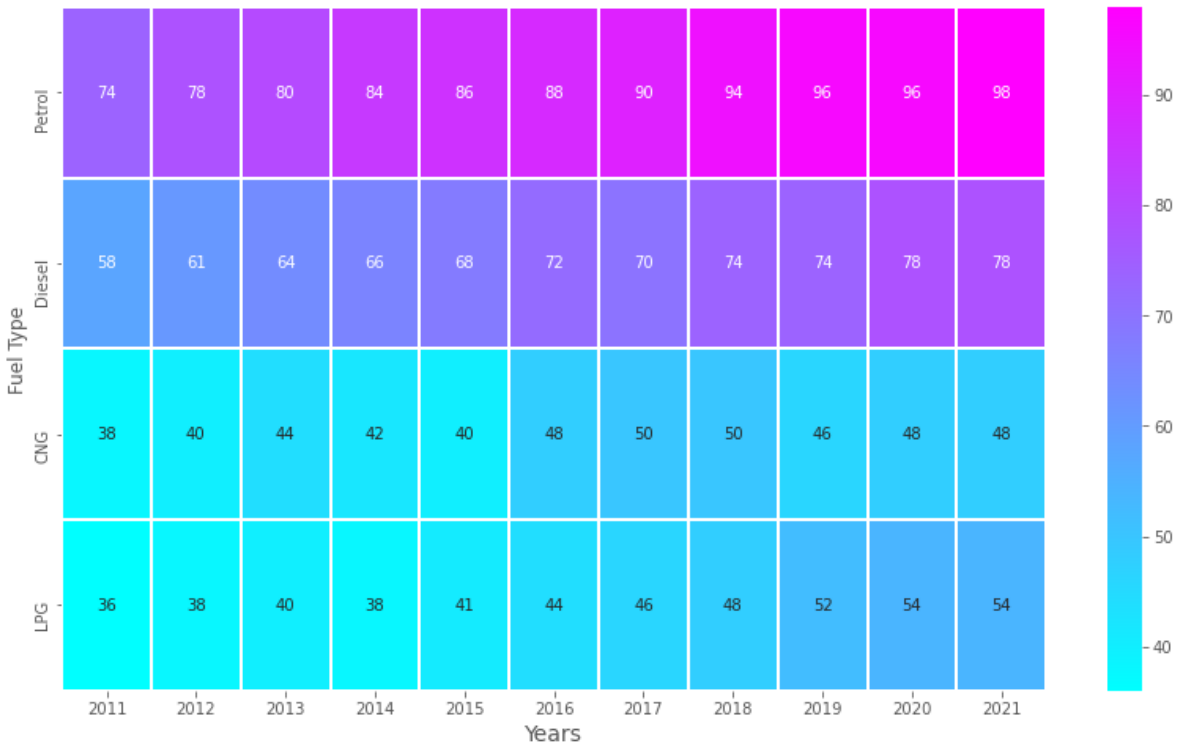
```
import seaborn as sns
data_df=pd.read_csv("C:\\Users\\HP\\Desktop\\FuelPrice.csv")
data_df=data_df.set_index("Fuel Type")
data_df
```

Out[265]:

Fuel Type	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Petrol	74	78	80	84	86	88	90	94	96	96	98
Diesel	58	61	64	66	68	72	70	74	74	78	78
CNG	38	40	44	42	40	48	50	50	46	48	48
LPG	36	38	40	38	41	44	46	48	52	54	54

In [346]:

```
plt.figure(figsize=(14,8))
sns.heatmap(data_df,annot=True,cmap= 'cool',linewidth=1)
plt.xlabel('Years',fontsize=14)
plt.show()
```



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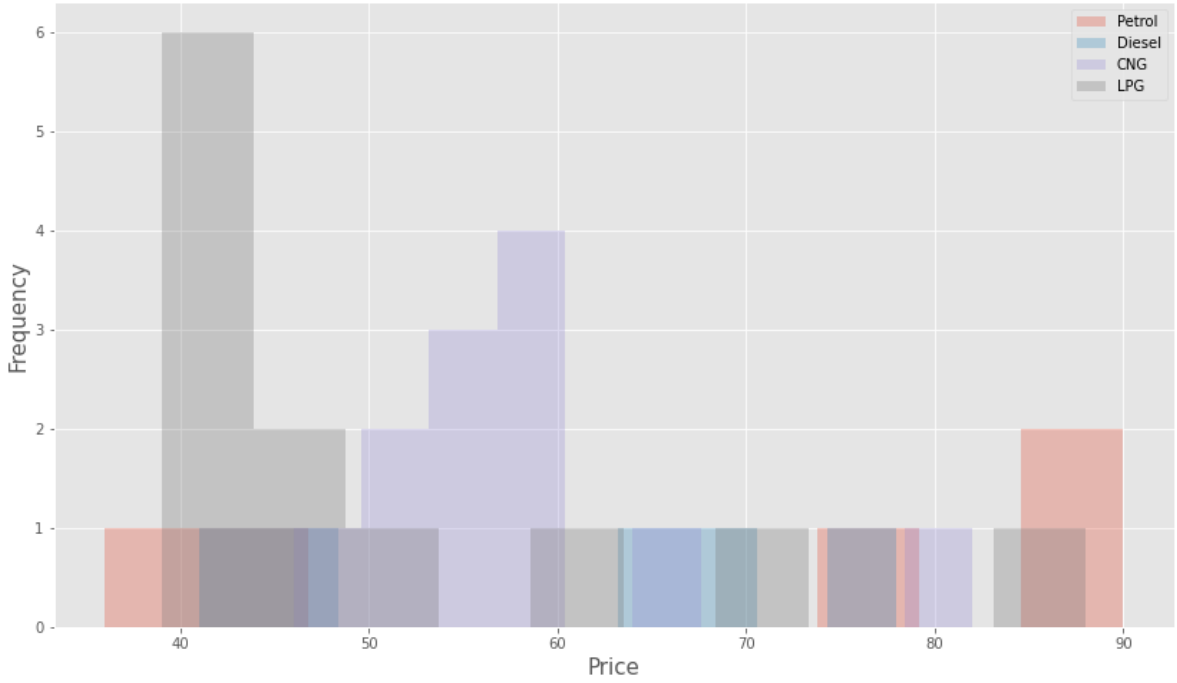
5. Write a Python Program to Read the total Price of each month and show it using the histogram to see most common Price ranges.

In [311]:

```
df3=pd.read_csv("C:\\Users\\HP\\Desktop\\fuel type.csv")
Diesel=df3['Diesel']
Petrol=df3['Petrol']
CNG=df3['CNG']
LPG=df3['LPG']
Month=df3['Month']
plt.figure(figsize=(14,8))
plt.hist(petrol,alpha=0.3,label='Petrol')
plt.hist(diesel,alpha=0.3,label='Diesel')
plt.hist(CNG,alpha=0.3,label='CNG')
plt.hist(LPG,alpha=0.3,label='LPG')
plt.xlabel("Price",fontsize=15)
plt.ylabel("Frequency",fontsize=15)
plt.legend()
plt.show()
```



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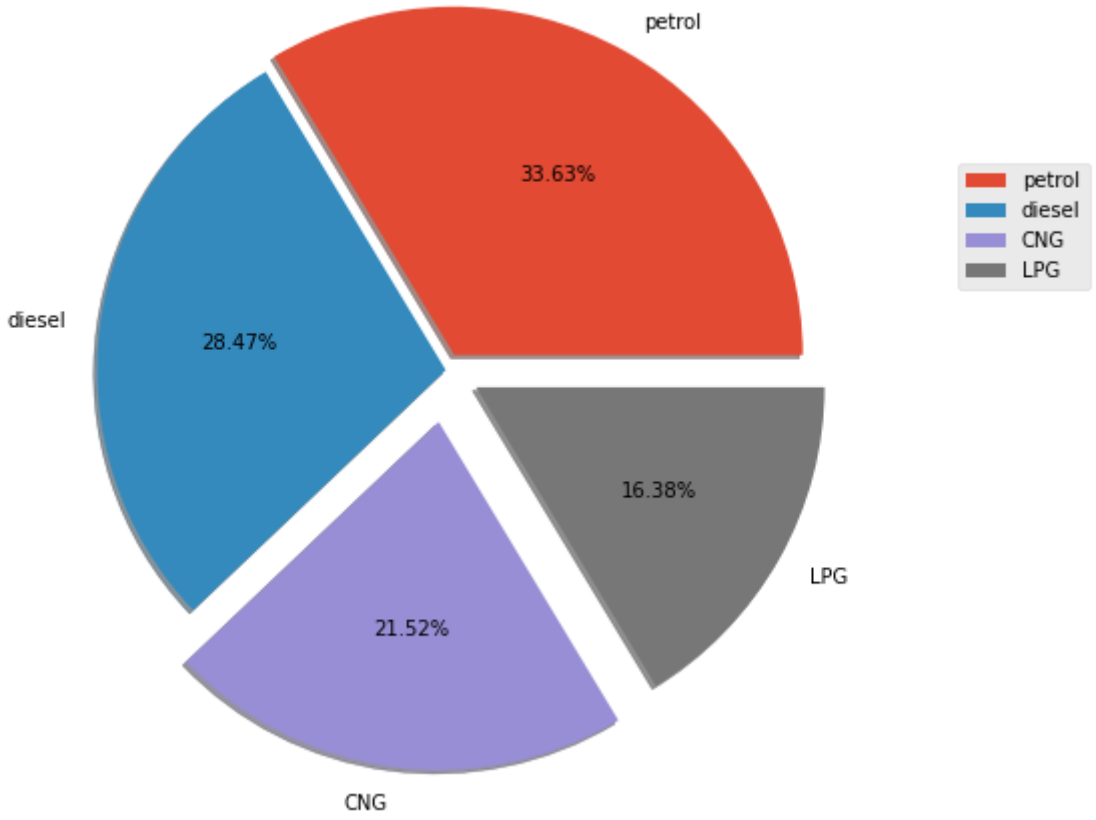
6. Write a Python Program to Calculate total Price data for last year for each FuelType and show it using a Pie chart.

In [318]:

```
df4=pd.read_csv("C:\\Users\\HP\\Desktop\\FuelType Yearly.csv")
plt.pie(df4['total price'],labels=df4['fuel type'],autopct="%1.2f%%",radius=2,shadow=True,
plt.legend(loc='best',bbox_to_anchor=(2,1))
df4
```

Out[318]:

	fuel type	janyary	february	march	april	may	june	july	august	september	october	noverr
0	petrol	90	88	89	87	80	82	78	80	84	90	
1	diesel	74	76	72	71	77	74	79	70	75	70	
2	CNG	54	56	57	60	59	54	58	52	51	57	
3	LPG	44	48	43	42	38	40	42	40	44	42	



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