In [3]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```

In [61]:
```
df = pd.read_csv('Salon_Data.csv')
print(f'Shape : {df.shape}')
```

```
Shape : (72, 8)
```

In [42]:
```
df.head(5)
```

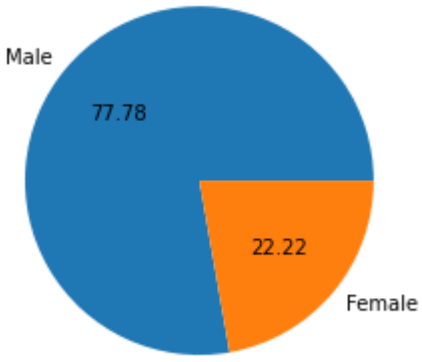
Out[42]:

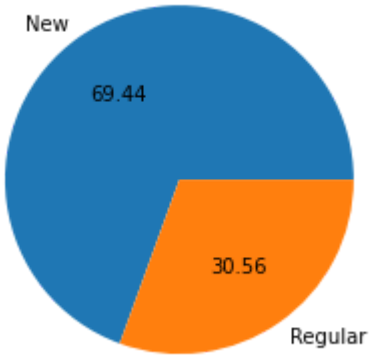
	date	time	haircut	price	hair_stylist	gender	type	rating
0	2021-07-01	morning	hair	150	Asim	Male	regular	4.0
1	2021-07-01	morning	hair	250	Viraj	Female	new	4.7
2	2021-07-01	noon	beard	100	Atif	Male	regular	4.2
3	2021-07-01	noon	hair	150	Asim	Male	new	3.7
4	2021-07-01	noon	all	350	Viraj	Male	regular	4.8

Pie Chart

pie chart of gender and type

In [5]:
```
plt.pie(x=df.gender.value_counts(), labels=['Male','Female'], autopct='%.2f')
plt.show()
plt.pie(x=df['type'].value_counts(), labels=['New','Regular'], autopct='%.2f')
plt.show()
```



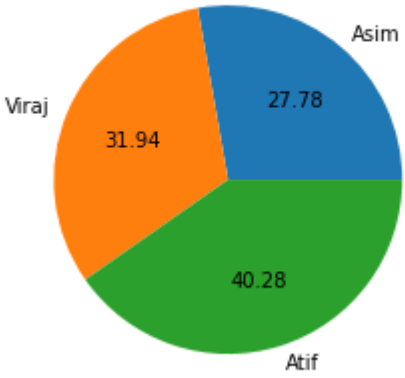


pie chart of % of haircut given by hairstylist

In [45]:
```
print(df.hair_stylist.value_counts())
plt.pie(df.hair_stylist.value_counts().sort_values(),
        labels=df.hair_stylist.unique(), autopct='%.2f')
plt.title('Percentage of haircut given by Hairstylist of all time')
plt.show()
```

```
Atif     29
Asim     23
Viraj    20
Name: hair_stylist, dtype: int64
```

Percentage of haircut given by Hairstylist of all time

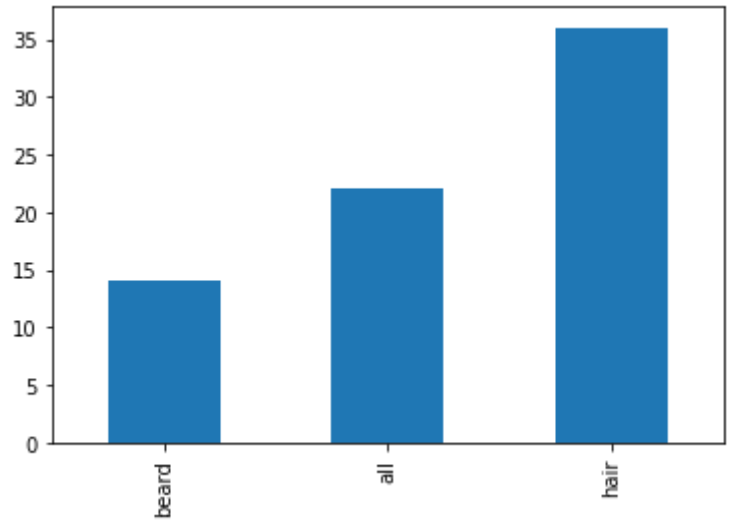


Bar Graph

bar graph of haircut type

In [62]:
```
df.haircut.value_counts().sort_values().plot(kind = 'bar')
```

Out[62]: <AxesSubplot:>

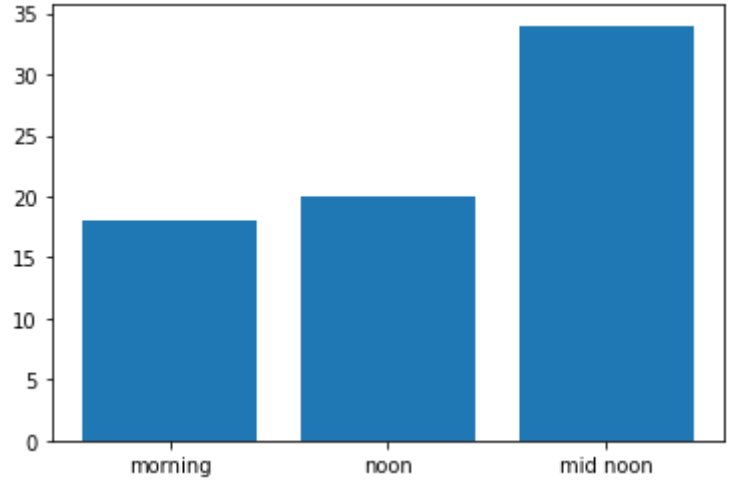


bar graph of haircut counts

In [63]:

```
print(df.time.value_counts().sort_values())
plt.bar(df.time.unique(), df.time.value_counts().sort_values())
plt.show()
```

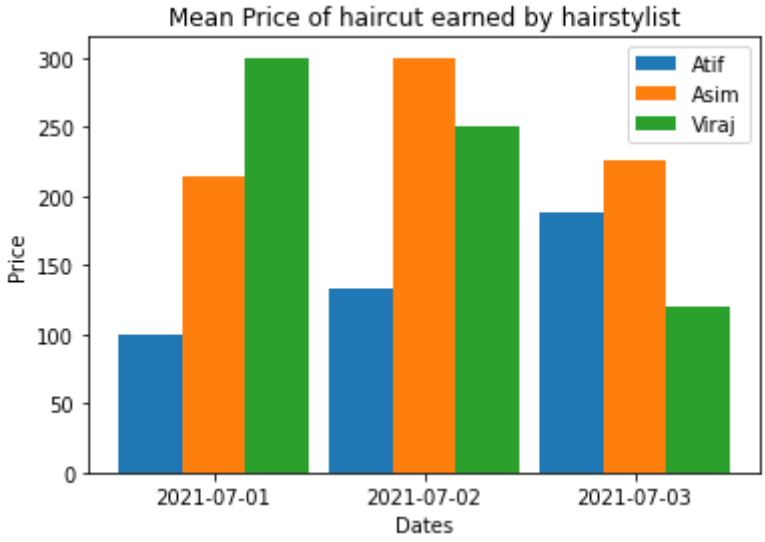
```
morning     18
mid noon    20
noon        34
Name: time, dtype: int64
```



Multiple bar graphs of Individual Hairstylist

In [55]:

```
hair_stylist = df.hair_stylist.unique()
days = df.date.unique()
foo = lambda name, date: df[(df['hair_stylist'] == name)
                            & (df['date'] == date)]['price']
atif = [foo('Atif', date).mean() for date in days]
asim = [foo('Asim', date).mean() for date in days]
viraj = [foo('Viraj', date).mean() for date in days]
x = np.arange(len(days))
plt.bar(x-0.3, atif,0.3, label='Atif')
plt.bar(x+0, asim,0.3, label='Asim')
plt.bar(x+0.3, viraj,0.3, label='Viraj')
plt.xticks(x, days)
plt.xlabel('Dates')
plt.ylabel('Price')
plt.title('Mean Price of haircut earned by hairstylist')
plt.legend()
plt.show()
```



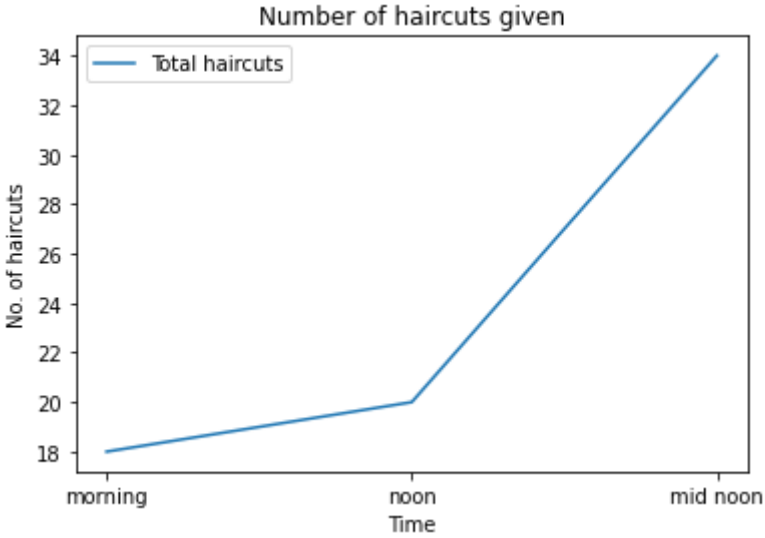
Line Plot

line plot of all time

In [46]:
```
plt.plot(df.time.unique(), df.time.value_counts().sort_values(),
         label='Total haircuts')
print(df.time.value_counts())
plt.title('Number of haircuts given')
plt.xlabel('Time')
plt.legend()
plt.ylabel('No. of haircuts')
```

```
noon        34
mid noon    20
morning     18
Name: time, dtype: int64
```

Out[46]:
```
Text(0, 0.5, 'No. of haircuts')
```



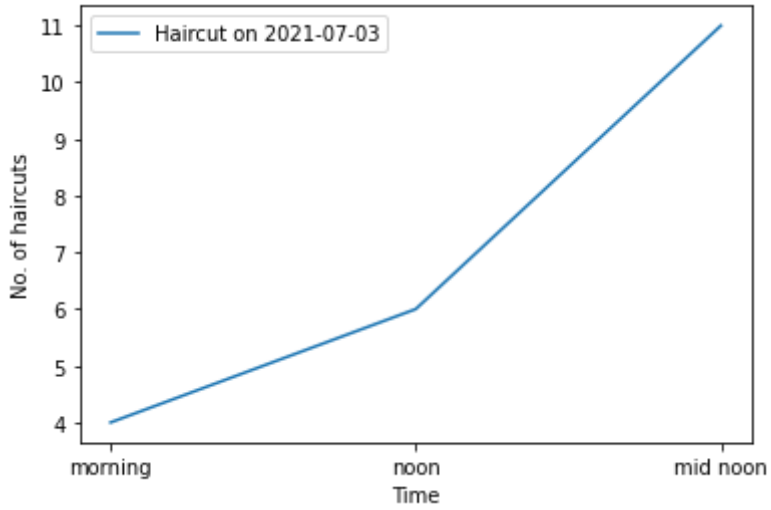
Line plot of particular date

Date Based wages

In [48]:
```
day = '2021-07-03'
day_func = lambda day: df[df['date']==day]['time'].value_counts().sort_values()
print(day_func(day))
plt.plot(df.time.unique(), day_func(day), label=f'Haircut on {day}')
```

```
plt.xlabel('Time')
plt.ylabel('No. of haircuts')
plt.legend()
plt.show()
```

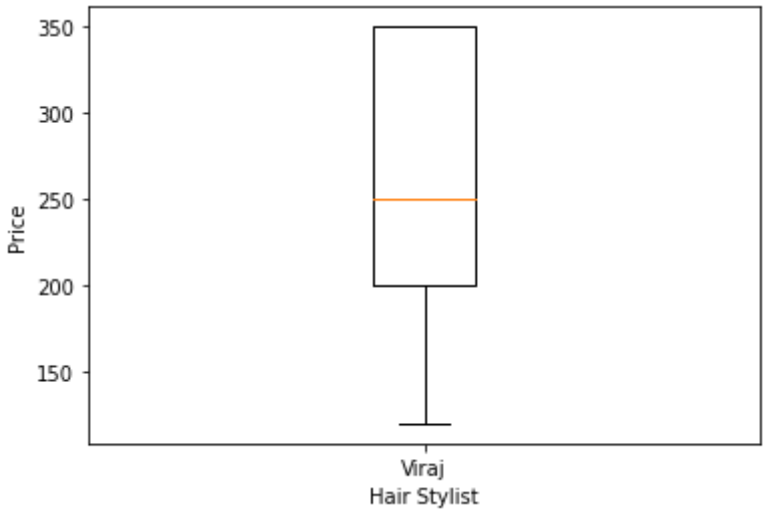
```
mid noon     4
morning      6
noon        11
Name: time, dtype: int64
```



Box Plot

In [49]:

```
hair_stylist = lambda name: df[df['hair_stylist']==name]['price']
for name in ['Asim','Atif','Viraj']:
    plt.boxplot(hair_stylist(name), labels=[name])
    plt.xlabel('Hair Stylist')
    plt.ylabel('Price')
    plt.show()
```

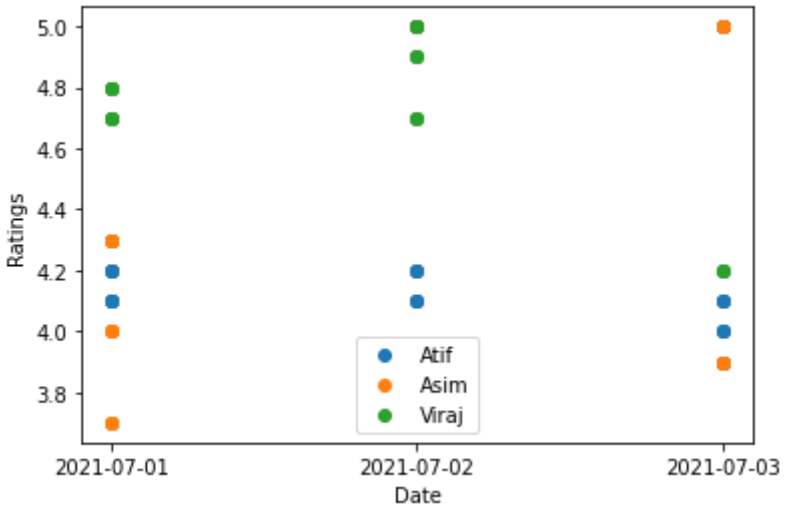


Scatter Plot

Scatter Plot of Rating of All Hair-Stylists

In [60]:

```
v,at = df[df['hair_stylist']=='Viraj'],df[df['hair_stylist']=='Atif']
a = df[df['hair_stylist']=='Asim']
plt.scatter(at['date'], at['rating'], label='Atif')
plt.scatter(a['date'], a['rating'], label='Asim')
plt.scatter(v['date'], v['rating'], label='Viraj')
plt.xlabel('Date')
plt.ylabel('Ratings')
plt.legend(loc='best')
plt.show()
```


5.0
4.8
4.6
4.4
4.2
4.0
3.8
Ratings
Atif
Asim
Viraj
2021-07-01
2021-07-02
2021-07-03
Date