Email Analysis

Find top 5 Agents by Average Query Revert

Present Percentage of All Types of Request

Present Claim Type of Quesries for Each Day of week

In [1]:

```
import numpy as np
import scipy.stats
import pandas as pd
import pandas.plotting
import matplotlib
import matplotlib.pyplot as pp
from matplotlib.pyplot import hist
from IPython import display
```

In [2]:

```
df = pd.read_csv('Assignment.csv', encoding = 'latin1')
```

In [3]:

```
df.columns.values
```

Out[3]:

```
array(['Case Number', 'Created By', 'Type', 'Sub Type', 'Policy',
       'Case Origin', 'Status', 'Complaint type', 'Case Owner',
       'Parent Case Date/Time Opened', 'Date/Time Closed', 'Opened Date',
       'Subject', 'Date/Time Opened', 'Open', 'Closed'], dtype=object)
```

In [10]:

```
# Endure columns are in proper date time type
df['Date/Time Closed'] = pd.to_datetime(df['Date/Time Closed'])
df['Date/Time Opened'] = pd.to_datetime(df['Date/Time Opened'])
```

In [19]:

```
# get age in
df['Age (Hours)']=(df['Date/Time Closed']-df['Date/Time Opened']).astype('timedelta64[h]')
df['Age (Hours)'].head()
```

Out[19]:

```
0    28.0
1    16.0
2     4.0
3    24.0
4    46.0
Name: Age (Hours), dtype: float64
```

In [20]:

```
df_mean = df.groupby(['Case Owner'])['Age (Hours)'].mean().reset_index()
df_mean.nlargest(5, 'Age (Hours)')
```

Out[20]:

	Case Owner	Age (Hours)
33	gayatri sasane	64.5
0	Ahmedabad Operations	61.0
10	MumbaiVashi Operations	47.0
3	Baroda Operations	44.0
9	MumbaiThane Operations	37.0

Above is the list of top 5 users taken max average time for reverting quries

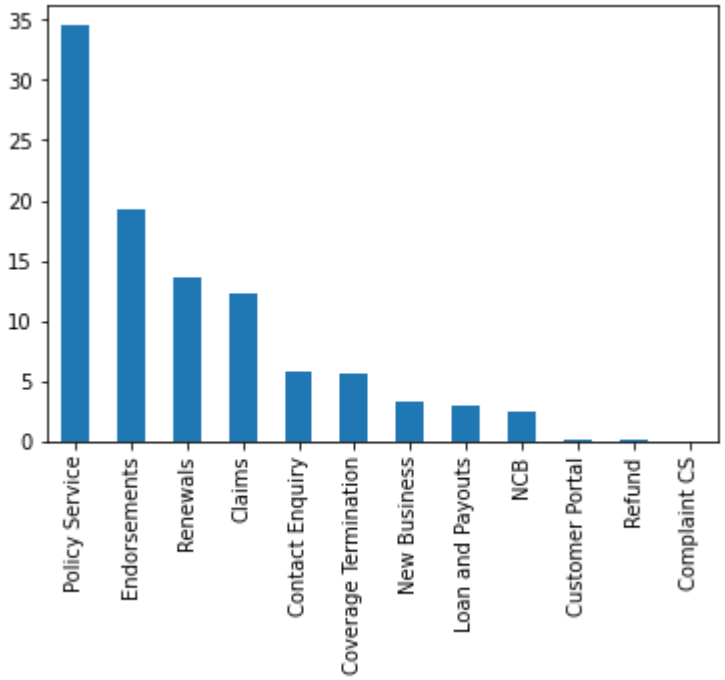
Below is the percentage of All Types of Custgomer quries

In [16]:

```
counts = df.Type.value_counts(normalize=True).mul(100).round(1).
counts.plot(kind='bar')
```

Out[16]:

```
<matplotlib.axes._subplots.AxesSubplot at 0x1a985c45c88>
```



In [8]:

```
df['DayName']= df['Date/Time Opened'].dt.day_name()
```

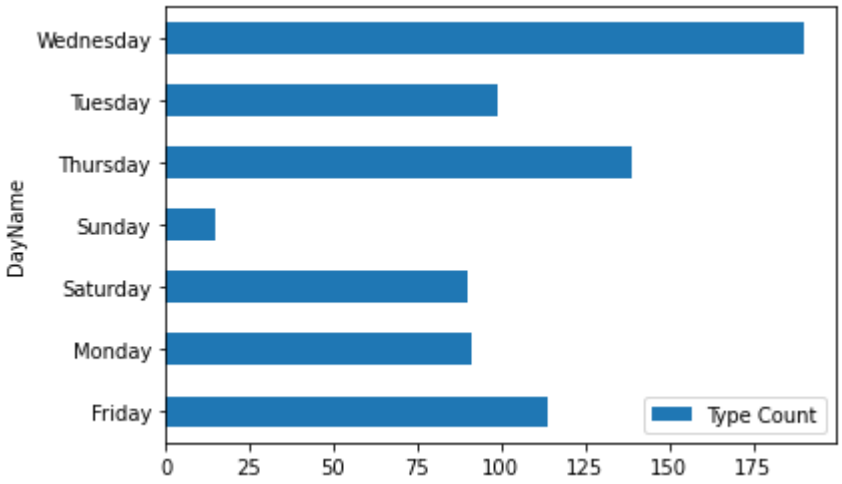
Below is the Day wise count of Claims Type of Email quries

In [22]:

```
# df.groupby(['Type','DayName'])['Date/Time Opened'].count().reset_index().plot(kind='density')
pos_df = df.loc[(df['Type']=='Policy Service')].groupby(['Type','DayName']).agg({'Type':'count'}).rename(columns={'Type':'Type Count'}).reset_index()
pos_df.plot.barh(y='Type Count', x='DayName')
```

Out[22]:

```
<matplotlib.axes._subplots.AxesSubplot at 0x1a985dc62e8>
```



In [ ]: