In [114]:

```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import plotly.plotly as py
import plotly.graph_objs as go
import plotly
plotly.tools.set_credentials_file(username='youcefjd', api_key='')
```

In [2]:

```
data = pd.read_csv('/users/youcefdjeddar/downloads/meteorite-landings.csv')
```

In [3]:

```
#Extracting the needed data (from the top 10 classes)
top_10 = data['recclass'].value_counts().index.tolist()[:10]
df = data[data['recclass'].isin(top_10)]
```

In [4]:

```
df.head()
```

Out[4]:

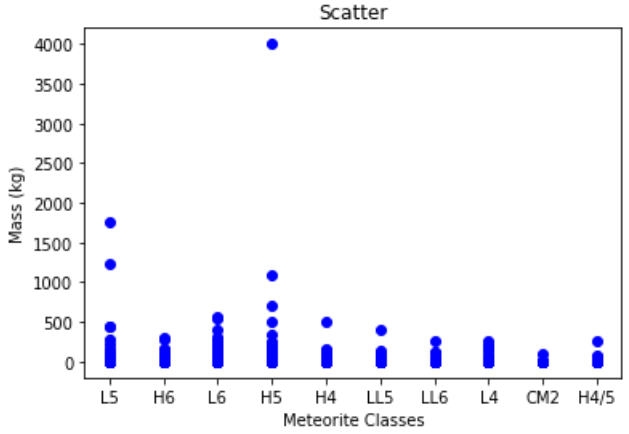
	name	id	nametype	recclass	mass	fall	year	reclat	reclong	GeoLocation
0	Aachen	1	Valid	L5	21.0	Fell	1880.0	50.77500	6.08333	(50.775000, 6.083330)
1	Aarhus	2	Valid	H6	720.0	Fell	1951.0	56.18333	10.23333	(56.183330, 10.233330)
4	Achiras	370	Valid	L6	780.0	Fell	1902.0	-33.16667	-64.95000	(-33.166670, -64.950000)
7	Agen	392	Valid	H5	30000.0	Fell	1814.0	44.21667	0.61667	(44.216670, 0.616670)
8	Aguada	398	Valid	L6	1620.0	Fell	1930.0	-31.60000	-65.23333	(-31.600000, -65.233330)

In [5]:

```
#Scatter plot of the ten meteorite classes on the x-axis and the mass of each meteorite on the y-a
xis
plt.scatter(df.recclass, df.mass/1000, marker = 'o', color = 'blue', label = 'mass')
plt.xlabel('Meteorite Classes')
plt.ylabel('Mass (kg)')
plt.title('Scatter')
```

Out[5]:

```
Text(0.5,1,'Scatter')
```

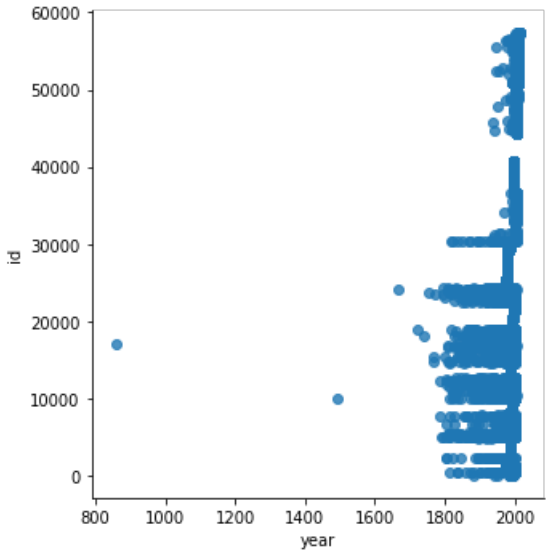


In [12]:

```
sns.lmplot('year', 'id', data=df, fit_reg=False)
#The plot shows that the landing frequency significantly increased starting from the 19th century
```

Out[12]:

```
<seaborn.axisgrid.FacetGrid at 0x1a16d7c2b0>
```

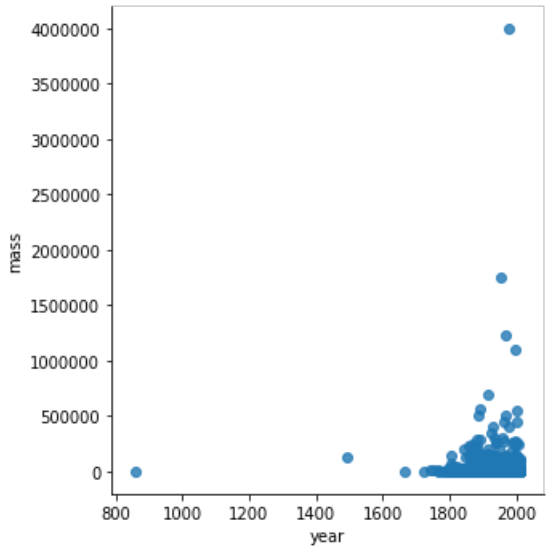


In [13]:

```
sns.lmplot('year', 'mass', data=df, fit_reg=False)
#The plot below shows that most of the contemporary meteorites are heavier
```

Out[13]:

```
<seaborn.axisgrid.FacetGrid at 0x10cf66c88>
```



In [111]:

```
#Same scatter plot but with the Plotly Library - it's, I believe, more esthetic.
data = [go.Scatter(x=df.year,
            y=df.mass, mode = 'markers'

              )]
py.iplot(data, filename='jupyter-basic_bar')
```

```
High five! You successfully sent some data to your account on plotly. View your plot in your
browser at https://plot.ly/~youcefjd/0 or inside your plot.ly account where it is named 'jupyter-b
asic_bar'
```

asic_bar

```
/Users/youcefdjeddar/anaconda3/lib/python3.6/site-packages/plotly/api/v1/clientresp.py:40:
UserWarning:

Estimated Draw Time Slow
```

Out[111]:

In [112]:

```
#Landings by class throughout the entire timescale
random_x = df.year
random_y1 = df.recclass

# Create traces
trace0 = go.Scatter(
    x = random_x,
    y = random_y0,
    mode = 'markers',
    name = 'markers'
)
trace1 = go.Scatter(
    x = random_x,
    y = random_y1,
    mode = 'markers',
    name = 'markers'
)

data = [trace0, trace1]
py.iplot(data, filename='scatter-mode')
```

The draw time for this plot will be slow for all clients.

```
/Users/youcefdjeddar/anaconda3/lib/python3.6/site-packages/plotly/api/v1/clientresp.py:40:
UserWarning:

Estimated Draw Time Too Long
```

Out[112]:

In [113]:

```
#Landings distribution on a map (using the properties lat and long)

mapbox_access_token = 'dhjrzm2c8j'
site_lat = df.reclat
site_lon = df.reclong
data = [
    go.Scattermapbox(
        lat=site_lat,
        lon=site_lon,
        mode='markers',
        marker=dict(
            size=17,
            color='rgb(255, 0, 0)',
            opacity=0.7
        ),
        hoverinfo='text'
    ),
    ]




fig = dict(data=data)

py.iplot(fig, filename='jupyter-Meteorite-Landings')
```

Out[113]: