In [1]:
```python
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```

In [3]:
```python
data = pd.read_csv('dailyActivity_merged.csv')
```
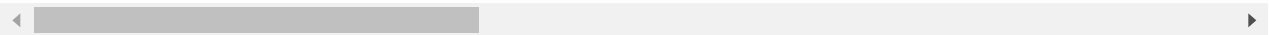
In [4]:
```python
data
```

Out[4]:

	Id	ActivityDate	TotalSteps	TotalDistance	TrackerDistance	LoggedActivitiesDistance	Ver
0	1503960366	4/12/2016	13162	8.500000	8.500000	0.0	
1	1503960366	4/13/2016	10735	6.970000	6.970000	0.0	
2	1503960366	4/14/2016	10460	6.740000	6.740000	0.0	
3	1503960366	4/15/2016	9762	6.280000	6.280000	0.0	
4	1503960366	4/16/2016	12669	8.160000	8.160000	0.0	
...	...	...	...	...	...	...	
935	8877689391	5/8/2016	10686	8.110000	8.110000	0.0	
936	8877689391	5/9/2016	20226	18.250000	18.250000	0.0	
937	8877689391	5/10/2016	10733	8.150000	8.150000	0.0	
938	8877689391	5/11/2016	21420	19.559999	19.559999	0.0	
939	8877689391	5/12/2016	8064	6.120000	6.120000	0.0	

940 rows × 15 columns

In [7]:
```python
print(data.isnull())
```

```
          Id  ActivityDate  TotalSteps  TotalDistance  TrackerDistance  \
0      False         False       False          False            False
1      False         False       False          False            False
2      False         False       False          False            False
3      False         False       False          False            False
4      False         False       False          False            False
..       ...           ...         ...            ...              ...
935    False         False       False          False            False
936    False         False       False          False            False
937    False         False       False          False            False
938    False         False       False          False            False
939    False         False       False          False            False

     LoggedActivitiesDistance  VeryActiveDistance  ModeratelyActiveDistance  \
0                       False               False                     False
1                       False               False                     False
2                       False               False                     False
3                       False               False                     False
4                       False               False                     False
```

```
  ..                ...                ...                        ...
  935             False              False                      False
  936             False              False                      False
  937             False              False                      False
  938             False              False                      False
  939             False              False                      False

        LightActiveDistance  SedentaryActiveDistance  VeryActiveMinutes  \
  0                   False                    False              False
  1                   False                    False              False
  2                   False                    False              False
  3                   False                    False              False
  4                   False                    False              False
  ..                    ...                      ...                ...
  935                 False                    False              False
  936                 False                    False              False
  937                 False                    False              False
  938                 False                    False              False
  939                 False                    False              False

        FairlyActiveMinutes  LightlyActiveMinutes  SedentaryMinutes  Calories
  0                   False                 False             False     False
  1                   False                 False             False     False
  2                   False                 False             False     False
  3                   False                 False             False     False
  4                   False                 False             False     False
  ..                    ...                   ...               ...       ...
  935                 False                 False             False     False
  936                 False                 False             False     False
  937                 False                 False             False     False
  938                 False                 False             False     False
  939                 False                 False             False     False

  [940 rows x 15 columns]
```

In [8]:
```python
print(data.info())
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 940 entries, 0 to 939
Data columns (total 15 columns):
 #   Column                   Non-Null Count  Dtype
---  ------                   --------------  -----
 0   Id                       940 non-null    int64
 1   ActivityDate             940 non-null    object
 2   TotalSteps               940 non-null    int64
 3   TotalDistance            940 non-null    float64
 4   TrackerDistance          940 non-null    float64
 5   LoggedActivitiesDistance  940 non-null    float64
 6   VeryActiveDistance       940 non-null    float64
 7   ModeratelyActiveDistance  940 non-null    float64
 8   LightActiveDistance      940 non-null    float64
 9   SedentaryActiveDistance  940 non-null    float64
 10  VeryActiveMinutes        940 non-null    int64
 11  FairlyActiveMinutes      940 non-null    int64
 12  LightlyActiveMinutes     940 non-null    int64
 13  SedentaryMinutes         940 non-null    int64
 14  Calories                 940 non-null    int64
dtypes: float64(7), int64(7), object(1)
```

```
memory usage: 110.3+ KB
None
```
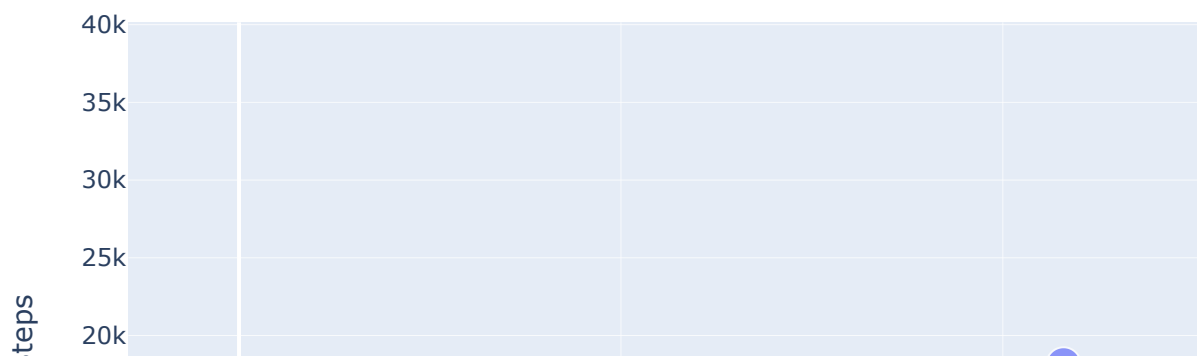
In [14]:
```
type(data)
```

Out[14]:
```
pandas.core.frame.DataFrame
```

In [17]:
```python
import plotly.express as px
import plotly.graph_objects as go
```

In [18]:
```python
figure = px.scatter(data_frame = data, x="Calories",
                    y="TotalSteps", size="VeryActiveMinutes",
                    trendline="ols",
                    title="Relationship between Calories & Total Steps")
```

In [19]:
```python
figure.show()
```

Relationship between Calories & Total Steps

In [21]:
```
data
```

Out[21]:

	Id	ActivityDate	TotalSteps	TotalDistance	TrackerDistance	LoggedActivitiesDistance	Ver
0	1503960366	4/12/2016	13162	8.500000	8.500000	0.0	
1	1503960366	4/13/2016	10735	6.970000	6.970000	0.0	
2	1503960366	4/14/2016	10460	6.740000	6.740000	0.0	
3	1503960366	4/15/2016	9762	6.280000	6.280000	0.0	
4	1503960366	4/16/2016	12669	8.160000	8.160000	0.0	
...	...	...	...	...	...	...	...
935	8877689391	5/8/2016	10686	8.110000	8.110000	0.0	
936	8877689391	5/9/2016	20226	18.250000	18.250000	0.0	
937	8877689391	5/10/2016	10733	8.150000	8.150000	0.0	
938	8877689391	5/11/2016	21420	19.559999	19.559999	0.0	
939	8877689391	5/12/2016	8064	6.120000	6.120000	0.0	

940 rows × 15 columns

In [35]:
```python
plt.bar('Very Active Minute, Inactive Minute')
plt.title('Smart')
plt.xlabel('xAxis Very Active Minutes')
plt.ylabel('yAxis Inactive Minutes')
height = ['2cm']
plt.show()
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
C:\Users\JICCOM~1\AppData\Local\Temp/ipykernel_5032/895454722.py in <module>
----> 1 plt.bar('Very Active Minute, Inactive Minute')
      2 plt.title('Smart')
      3 plt.xlabel('xAxis Very Active Minutes')
      4 plt.ylabel('yAxis Inactive Minutes')
      5 height = ['2cm']

TypeError: bar() missing 1 required positional argument: 'height'
```
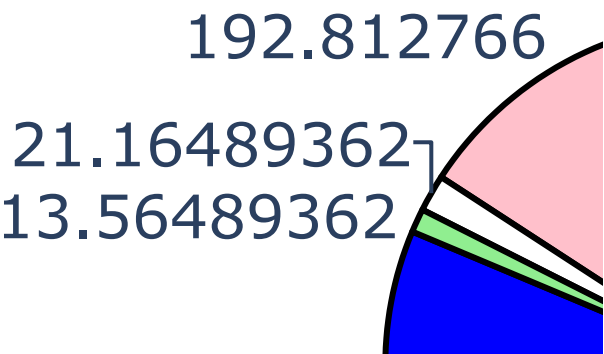
In [30]:
```python
label = ["Very Active Minutes", "Fairly Active Minutes",
         "Lightly Active Minutes", "Inactive Minutes"]
counts = data[["VeryActiveMinutes", "FairlyActiveMinutes",
               "LightlyActiveMinutes", "SedentaryMinutes"]].mean()
colors = ['white','lightgreen', "pink", "blue"]

fig = go.Figure(data=[go.Pie(labels=label, values=counts)])
fig.update_layout(title_text='Total Active Minutes')
fig.update_traces(hoverinfo='label+percent', textinfo='value', textfont_size=30,
                  marker=dict(colors=colors, line=dict(color='black', width=3)))
fig.show()
```

Total Active Minutes

Total Active Minutes

192.812766

21.16489362

13.56489362

In [ ]:

In [ ]: