Multiple Linear Regression

Import the Relevant Libraries

```
In [1]:  import numpy as np
         import pandas as pd
         import matplotlib.pyplot as plt
         import seaborn as sns
         sns.set()

         from sklearn.linear_model import LinearRegression
```

Load the Data

```
In [2]:  data = pd.read_csv('MultipleRegression.csv')
         data.head()
```

Out[2]:

	SAT	Rand 1,2,3	GPA
0	1714	1	2.40
1	1664	3	2.52
2	1760	3	2.54
3	1685	3	2.74
4	1693	2	2.83

```
In [3]:  data.describe()
```

Out[3]:

	SAT	Rand 1,2,3	GPA
count	84.000000	84.000000	84.000000
mean	1845.273810	2.059524	3.330238
std	104.530661	0.855192	0.271617
min	1634.000000	1.000000	2.400000
25%	1772.000000	1.000000	3.190000
50%	1846.000000	2.000000	3.380000
75%	1934.000000	3.000000	3.502500
max	2050.000000	3.000000	3.810000

Create the Multiple Linear Regression

Declare the Dependent and Independent Variables

In [4]:
```python
x = data[['SAT','Rand 1,2,3']]
y = data['GPA']
```

The Regression Itself

In [5]:
```python
reg = LinearRegression()
reg.fit(x, y)
```

Out[5]: LinearRegression()

In [6]:
```python
reg.coef_
```

Out[6]: array([0.00165354, -0.00826982])

In [7]:
```python
reg.intercept_
```

Out[7]: 0.29603261264909486