In [84]:
```
greetings = "Assalam-o-Alaikum!"
print(greetings)
```

```
Assalam-o-Alaikum!
```

Import Libraries

In [85]:
```
import pandas as pd
```

Data

In [86]:
```
hairstyles = ["bouffant", "pixie", "dreadlocks", "crew", "bowl", "bob", "mohawk", "flattop"]
prices = [30, 25, 40, 20, 20, 35, 50, 35]
last_week = [2, 3, 5, 8, 4, 4, 6, 2]
```

In [87]:
```
df = pd.DataFrame({"Hair Style": hairstyles,
                   "Price": prices,
                   "Last Week": last_week})
df
```

Out[87]:

	Hair Style	Price	Last Week
0	bouffant	30	2
1	pixie	25	3
2	dreadlocks	40	5
3	crew	20	8
4	bowl	20	4
5	bob	35	4
6	mohawk	50	6
7	flattop	35	2

Most Revenue by Hair Style

In [88]:
```
df["Revenue"] = df["Price"] * df["Last Week"]
df
```

Out[88]:

	Hair Style	Price	Last Week	Revenue
0	bouffant	30	2	60
1	pixie	25	3	75
2	dreadlocks	40	5	200
3	crew	20	8	160
4	bowl	20	4	80
5	bob	35	4	140
6	mohawk	50	6	300
7	flattop	35	2	70

In [89]:
```
def category(x):
    if x>= 0 and x < 30:
        return "Economy"
    elif x >= 30 and x < 40:
        return "Standard"
    else:
        return "Premium"
```

In [90]:
```
df["Catagory"] = df["Price"].apply(category)
df
```

Out[90]:

	Hair Style	Price	Last Week	Revenue	Catagory
0	bouffant	30	2	60	Standard
1	pixie	25	3	75	Economy
2	dreadlocks	40	5	200	Premium
3	crew	20	8	160	Economy
4	bowl	20	4	80	Economy
5	bob	35	4	140	Standard
6	mohawk	50	6	300	Premium
7	flattop	35	2	70	Standard

Costly Hair Style

In [91]:
```
chs = df[df["Price"] == df["Price"].max()]
chs
```

Out[91]:

	Hair Style	Price	Last Week	Revenue	Catagory
6	mohawk	50	6	300	Premium

Cheapest Hair Style

In [92]:
```
cheapest_hair_style = df[df["Price"] == df["Price"].min()]
cheapest_hair_style
```

Out[92]:

	Hair Style	Price	Last Week	Revenue	Catagory
3	crew	20	8	160	Economy
4	bowl	20	4	80	Economy

Most Frequent Hair Style

In [93]:
```
mfhs = df[df["Last Week"] == df["Last Week"].max()]
mfhs
```

Out[93]:

	Hair Style	Price	Last Week	Revenue	Catagory
3	crew	20	8	160	Economy

Least Frequent Hair Style

In [94]:
```
lfhs = df[df["Last Week"] == df["Last Week"].min()]
lfhs
```

Out[94]:

	Hair Style	Price	Last Week	Revenue	Catagory
0	bouffant	30	2	60	Standard
7	flattop	35	2	70	Standard

Highest Revenue By Hair Style

In [95]:
```
hr = df[df["Revenue"] == df["Revenue"].max()]
hr
```

Out[95]:

	Hair Style	Price	Last Week	Revenue	Catagory
6	mohawk	50	6	300	Premium

Lowest Revenue By Hair Style

In [96]:
```
lr = df[df["Revenue"] == df["Revenue"].min()]
lr
```

Out[96]:

	Hair Style	Price	Last Week	Revenue	Catagory
0	bouffant	30	2	60	Standard

Average Price Of Hair Style

In [97]:
```
avhs = df["Price"].mean()
```

```
print("Average Price Of Hair Style = $" + str(avhs))
```

```
Average Price Of Hair Style = $31.875
```

Average Customers by Last Week

In [98]:
```
avlw = df["Last Week"].mean()
print("Average Customers by Last Week =", str(int(avlw)))
```

```
Average Customers by Last Week = 4
```

Average Revenue By Last Week

In [99]:
```
avrlw = df["Revenue"].mean()
print("Average Revenue By Last Week =", str(avrlw))
```

```
Average Revenue By Last Week = 135.625
```

Total Price Of Hair Styles

In [100…
```
tphs = df["Price"].sum()
print("Total Price Of Hair Styles = $" + str(tphs))
```

```
Total Price Of Hair Styles = $255
```

Total Customers By Last Week

In [101…
```
tclw = df["Last Week"].sum()
print("Total Customers By Last Week = " + str(tclw))
```

```
Total Customers By Last Week = 34
```

Total Revenue By Last Week

In [102…
```
trlw = df["Revenue"].sum()
print("Total Revenue By Last Week = $" + str(trlw))
```

```
Total Revenue By Last Week = $1085
```

Statistics of Hair Style Price By Catagory

In [103…
```
sc = df.groupby("Catagory")["Price"].agg(["count", "sum", "min", "mean", "max"]).round(2).reset_index()
sc
```

Out[103]:

	Catagory	count	sum	min	mean	max
0	Economy	3	65	20	21.67	25
1	Premium	2	90	40	45.00	50
2	Standard	3	100	30	33.33	35

In [104…
```
sc.columns = ["Catagory", "Customers", "Total Price", "Minimum Price", "Average Price", "Maximum Price"]
sc
```

Out[104]:

	Catagory	Customers	Total Price	Minimum Price	Average Price	Maximum Price
0	Economy	3	65	20	21.67	25
1	Premium	2	90	40	45.00	50
2	Standard	3	100	30	33.33	35

Statistics Of Hair Style Sold By Catagory

In [105…
```
shc = df.groupby("Catagory")["Last Week"].agg(["count", "sum", "min", "mean", "max"]).round(2).reset_index()
shc
```

Out[105]:

	Catagory	count	sum	min	mean	max
0	Economy	3	15	3	5.00	8
1	Premium	2	11	5	5.50	6
2	Standard	3	8	2	2.67	4

In [106…
```
shc.columns = ["Catagory", "Range", "Total Customers", "Min Range", "Average", "Max Range"]
shc
```

Out[106]:

	Catagory	Range	Total Customers	Min Range	Average	Max Range
0	Economy	3	15	3	5.00	8
1	Premium	2	11	5	5.50	6
2	Standard	3	8	2	2.67	4

Statistics Of Revenue By Hair Style

In [107…

```
rhs = df.groupby("Catagory")["Revenue"].agg(["count", "sum", "min", "mean", "max"]).reset_index()
rhs
```

Out[107]:

	Catagory	count	sum	min	mean	max
0	Economy	3	315	75	105.0	160
1	Premium	2	500	200	250.0	300
2	Standard	3	270	60	90.0	140

In [108…

```
rhs.columns = ["Catagory", "Range", "Total Revenue", "Min Revenue", "Avg Revenue", "Max Revenue"]
rhs
```

Out[108]:

	Catagory	Range	Total Revenue	Min Revenue	Avg Revenue	Max Revenue
0	Economy	3	315	75	105.0	160
1	Premium	2	500	200	250.0	300
2	Standard	3	270	60	90.0	140