#### **Day 10 Assignment**

# 10 Hypothesis That could Justify the attrition Patterns in the data.

1) Average PercentSalaryHike rate of attrition=Yes is >= 14

2) Average Distance from home of attrition=Yes is <= 10

## 3) Average Age of attrition=Yes is 33

### 4) The Divorced People are Mostly not Leaving

5) Single People Are leaving mostly

```
In [21]: total_attr = df["Attrition"].value_counts()["Yes"]
    print("Total Employes Who leave :",total_attr)
    print("Number of Married People leaving :",attr_yes_married_count,(attr_yes_married_count/total_attr)*100,"%")
    print("Number of Single People Leaving :",attr_yes_single_count,(attr_yes_single_count/total_attr)*100,"%")
    print("Number of Divorced People Leaving :",attr_yes_divorced_count,(attr_yes_divorced_count/total_attr)*100,"%")

Total Employes Who leave : 711
    Number of Married People leaving : 252 35.44303797468354 %
    Number of Single People Leaving : 360 50.63291139240506 %
    Number of Divorced People Leaving : 99 13.924050632911392 %
```

#### Conclusion From Above analysis:

Single People Are leaving mostly. Rate: 50.63% Married Rate: 35.44% Divorced Rate: 13.92%

The Divorced People are Mostly not Leaving

## 6) Attrition rate of Female are more than male

```
In [16]: total_attr = df["Attrition"].value_counts()["Yes"]
    print("Total Employes Who leave :",total_attr)
    print("Number of Male leaving :",attr_yes_male_count,(attr_yes_male_count/total_attr)*100,"%")
    print("Number of Female Leaving :",attr_yes_female_count,(attr_yes_female_count/total_attr)*100,"%")

Total Employes Who leave : 711
    Number of Male leaving : 270 37.9746835443038 %
    Number of Female Leaving : 441 62.0253164556962 %

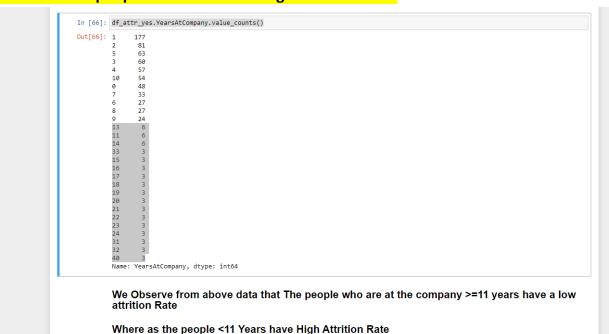
So we Conclude from above result that rate of female attrition is more than Male

ie. Female = 62%

Male = 37.9%
```

#### 7) People from Research and Development Department have a high Attrition Rate

8) The people who are at the company >=11 years have a low attrition Rate Where as the people <11 Years have High Attrition Rate



# 9) Sales Executive, Research Scientist and Laboratory Technician have a high Attrition Rate As compared to other JobRole

```
In [67]: df_attr_yes.JobRole.value_counts()

Out[67]: Sales Executive 165
Research Scientist 159
Laboratory Technician 126
Research Director 57
Healthcare Representative 57
Manufacturing Director 48
Manager 42
Sales Representative 36
Human Resources 21
Name: JobRole, dtype: int64
```

We Observe from above data that Sales Executive, Research Scientist and Laboratory Technician have a high Attrition Rate As compared to other JobRole

#### 10.) Employees of Life Science and Medical Field have a high Attrition Rate

#### Analysis based on Education Field of the Employee

```
In [17]: df_attr_yes.EducationField.value_counts()

Out[17]: Life Sciences 303
Medical 225
Marketing 75
Technical Degree 45
Human Resources 33
Other 30
Name: EducationField, dtype: int64
```

From above we observe that Employees of Life Science and Medical Field have a high Attrition Rate