**Day-7 Assignment**

1. Load data to Pandas Dataframe

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| import pandas as pd  import matplotlib.pyplot as plt  data=pd.read\_csv('general\_data.csv')  masterData=pd.DataFrame(data) |

1. Check for nulls and removed null rows.

*Found null values in 2 columns ‘NumCompaniesWorked’(19 Rows) and ‘TotalWorkingYears’(9 Rows)*

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| --- |
| #Checking for NULLs  masterData.isnull().any()  TotalWorkingYears\_nulls = masterData['TotalWorkingYears'].isnull().value\_counts()  NumCompaniesWorked\_nulls = masterData['NumCompaniesWorked'].isnull().value\_counts()  print(TotalWorkingYears\_nulls)  print(NumCompaniesWorked\_nulls) |

1. Removing null Rows.

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| nullExclued= masterData.dropna() |

1. Converting the Attrition column values to the numeric values.

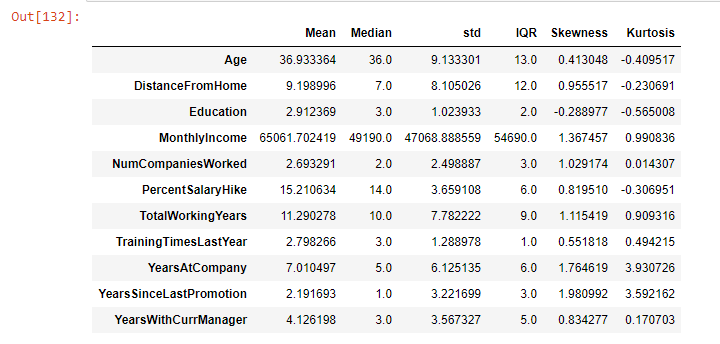
|  |
| --- |
| nullExclued ['Attrition\_1']= nullExclued ['Attrition'].map({'Yes':1,'No':0}) |

1. Taking the required columns into consideration

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| columns\_to\_consider=['Age','DistanceFromHome','Education','MonthlyIncome',  'NumCompaniesWorked', 'PercentSalaryHike','TotalWorkingYears', 'TrainingTimesLastYear',  'YearsAtCompany','YearsSinceLastPromotion', 'YearsWithCurrManager'] |

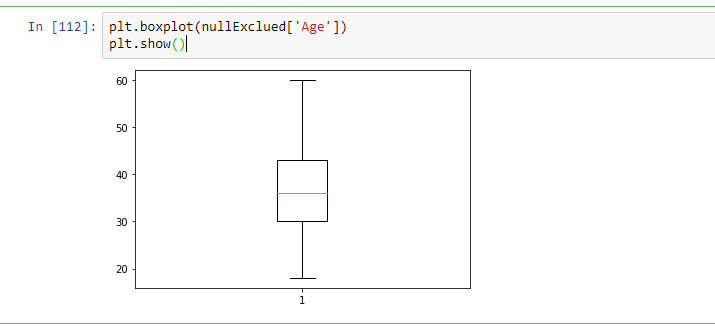
1. Calculating Mean,Median, Skewness, Peakness of the columns in consideration

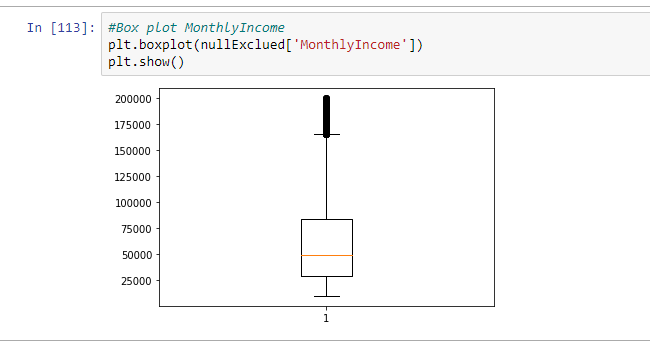
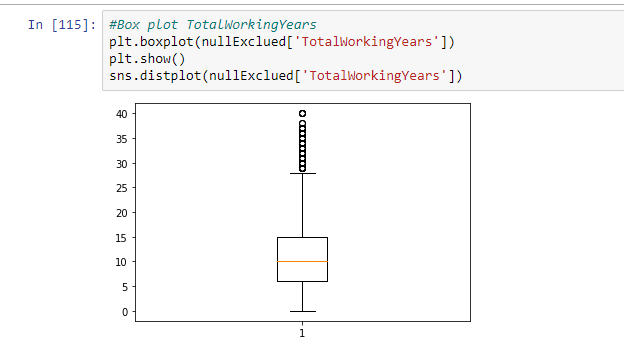
|  |
| --- |
| desc= masterData[columns\_to\_consider].describe().T  df\_mean=pd.Series(nullExclued[columns\_to\_consider].mean())  df\_median=pd.Series(nullExclued[columns\_to\_consider].median())  #df\_mode1=pd.Series(nullExclued[columns\_to\_consider].mode())  df\_skew=pd.Series(nullExclued[columns\_to\_consider].skew())  df\_kurt=pd.Series(nullExclued[columns\_to\_consider].kurt())  df\_IQR =pd.Series(desc['75%']-desc['25%'])  df\_std=pd.Series(desc['std'])  df\_stats=pd.DataFrame([df\_mean,df\_median,df\_std,df\_IQR,df\_skew,df\_kurt]).T  df\_stats.columns=['Mean','Median','std','IQR','Skewness','Kurtosis']  df\_stats |

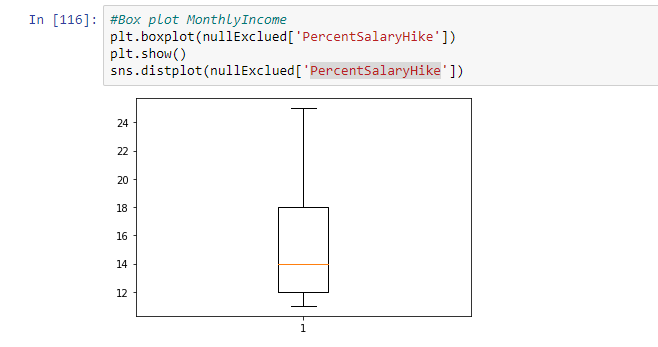


1. Box plot for Age.

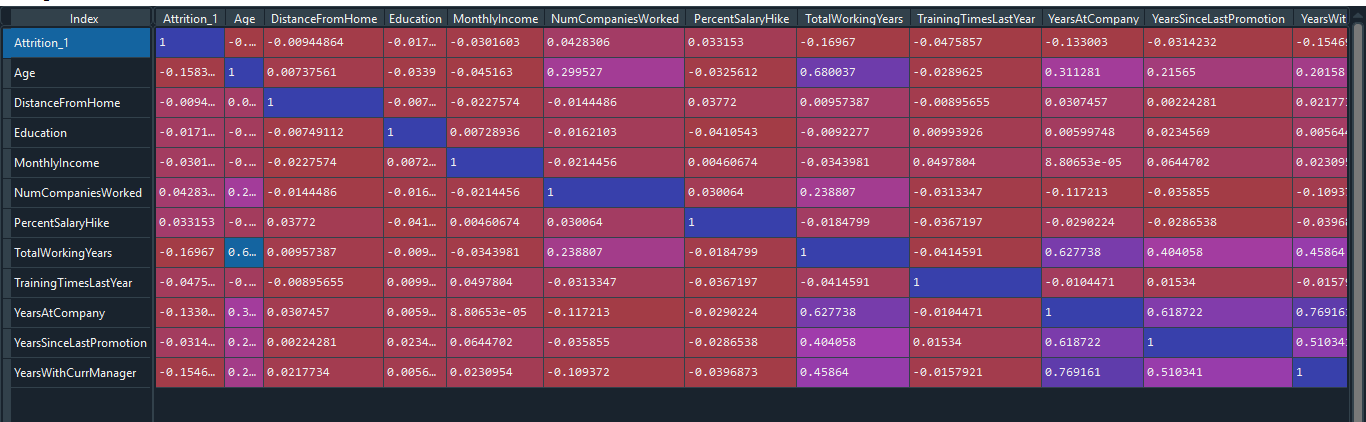
Age is normally distributed in the company. Its is symmetrical and no outlayers.



1. Box plot MonthlySalary  
   Monthly salary has outlayers. It is positively skewed  
     
   
2. Box plot of TotalWorkingYears  
   TotalWorkingYears has outliners and is positively skewed. TotalWorkingYears (1.11) and MonthlySalary(1.37) has similar Skewness.  
   
3. Box plot for **PercentSalaryHike.**PercentSalaryHike has no outliners and is positively skewed.



1. **Correlation matrix :**

Finding correlation between the columns.  
  


**Observations:**

* There is almost zero correlation between Attrition and other columns.
* There is slight correlation between ‘TotalWorkingYears’(-0.17),YearsAtCompany(-0.13), YearsWithCurrentManager(-0.15)