Python 3.7.4 (default, Aug 9 2019, 18:34:13) [MSC v.1915 64 bit (AMD64)]

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IPython 7.8.0 -- An enhanced Interactive Python.

runfile('D:/mydata/AI-ML/Files/day7/correlation.py', wdir='D:/mydata/AI-ML/Files/day7')

Age Attrition ... YearsSinceLastPromotion YearsWithCurrManager

0 51 No ... 0 0

1 31 Yes ... 1 4

2 32 No ... 0 3

3 38 No ... 7 5

4 32 No ... 0 4

... ... ... ... ...

4405 42 No ... 0 2

4406 29 No ... 0 2

4407 25 No ... 1 2

4408 42 No ... 7 8

4409 40 No ... 3 9

[4410 rows x 24 columns]

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Ho - there is correlation between Attrition and MonthlyIncome and Ha - there is correlation between Attrition and MonthlyIncome

-0.031176281698115007 0.03842748490600132

Reject Hypothesis Ho and there is no correlation between Attrition and MonthlyIncome

Age ... YearsWithCurrManager

Age 1.000000 ... 0.202089

Attrition -0.159205 ... -0.156199

BusinessTravel -0.011807 ... -0.000229

Department -0.017607 ... -0.038375

DistanceFromHome 0.006963 ... 0.021584

Education -0.035706 ... 0.005358

EducationField -0.001023 ... -0.023723

EmployeeCount NaN ... NaN

EmployeeID 0.008649 ... 0.008579

Gender -0.039352 ... 0.004438

JobLevel -0.002884 ... -0.055251

MaritalStatus 0.095029 ... 0.038570

MonthlyIncome -0.044314 ... 0.024304

NumCompaniesWorked 0.294811 ... -0.110035

PercentSalaryHike -0.033137 ... -0.040864

StandardHours NaN ... NaN

StockOptionLevel -0.031753 ... 0.017757

TotalWorkingYears 0.679697 ... 0.458536

TrainingTimesLastYear -0.027308 ... -0.013270

YearsAtCompany 0.311309 ... 0.769212

YearsSinceLastPromotion 0.216513 ... 0.510224

YearsWithCurrManager 0.202089 ... 1.000000

[22 rows x 22 columns]

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Ho - there is correlation between Attrition and EducationField and Ha - there is correlation between Attrition and EducationField

0.016453906772344595 0.2746430661808631

accept Hypothesis Ho and there is correlation between Attrition and EducationField

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Ho - there is correlation between Attrition and BusinessTravel and Ha - there is correlation between Attrition and BusinessTravel

0.12700648315243618 2.536639653019909e-17

Reject Hypothesis Ho and there is no correlation between Attrition and BusinessTravel

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Ho - there is correlation between Attrition and MaritalStatus and Ha - there is correlation between Attrition and MonthlyIncome

-0.162070234657015 2.4449148399198393e-27

Reject Hypothesis Ho and there is no correlation between Attrition and MaritalStatus

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Ho - there is correlation between Attrition and DistanceFromHome and Ha - there is correlation between Attrition and DistanceFromHome

-0.00973014101017966 0.5182860428050771

accept Hypothesis Ho and there is correlation between Attrition and DistanceFromHome

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Ho - there is correlation between Attrition and Education and Ha - there is correlation between Attrition and Education

-0.015111167710968711 0.3157293177118575

accept Hypothesis Ho and there is correlation between Attrition and Education

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Ho - there is correlation between Attrition and Gender and Ha - there is correlation between Attrition and Gender

0.01812507887701024 0.22881970951795952

accept Hypothesis Ho and there is correlation between Attrition and Gender

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Ho - there is correlation between Attrition and JobLevel and Ha - there is correlation between Attrition and JobLevel

-0.010289713287495035 0.49451717271828405

accept Hypothesis Ho and there is correlation between Attrition and JobLevel

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Ho - there is correlation between Attrition and NumCompaniesWorked and Ha - there is correlation between Attrition and NumCompaniesWorked

0.04256001429413143 0.004701600484618181

Reject Hypothesis Ho and there is no correlation between Attrition and NumCompaniesWorked

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Ho - there is correlation between Attrition and PercentSalaryHike and Ha - there is correlation between Attrition and NumCompaniesWorked

0.03253259489105351 0.030743386433355353

Reject Hypothesis Ho and there is no correlation between Attrition and PercentSalaryHike

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Ho - there is correlation between Attrition and StandardHours and Ha - there is correlation between Attrition and NumCompaniesWorked

C:\ProgramData\Anaconda3\lib\site-packages\scipy\stats\stats.py:3399: PearsonRConstantInputWarning: An input array is constant; the correlation coefficent is not defined.

warnings.warn(PearsonRConstantInputWarning())

nan nan

Reject Hypothesis Ho and there is no correlation between Attrition and StandardHours

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Ho - there is correlation between Attrition and TotalWorkingYears and Ha - there is correlation between Attrition and NumCompaniesWorked

-0.16937005156602608 9.730589661012995e-30

Reject Hypothesis Ho and there is no correlation between Attrition and TotalWorkingYears

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Ho - there is correlation between Attrition and YearsAtCompany and Ha - there is correlation between Attrition and NumCompaniesWorked

-0.1343922139899772 3.1638831224877484e-19

Reject Hypothesis Ho and there is no correlation between Attrition and YearsAtCompany

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Ho - there is correlation between Attrition and YearsSinceLastPromotion and Ha - there is correlation between Attrition and NumCompaniesWorked

-0.03301877514258434 0.028330336189396753

Reject Hypothesis Ho and there is no correlation between Attrition and YearsSinceLastPromotion

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Ho - there is correlation between Attrition and YearsWithCurrManagerv and Ha - there is correlation between Attrition and NumCompaniesWorked

-0.15619931590162842 1.7339322652900218e-25

Reject Hypothesis Ho and there is no correlation between Attrition and YearsWithCurrManager

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Ho - there is correlation between Attrition and YearsWithCurrManagerv and Ha - there is correlation between Attrition and NumCompaniesWorked

0.041569858226705884 0.0057629097928851205

Reject Hypothesis Ho and there is no correlation between Attrition and Department

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Ho - there is correlation between Attrition and EmployeeID and Ha - there is correlation between Attrition and EmployeeID

-0.004729122995066087 0.7535487401886252

accept Hypothesis Ho and there is correlation between Attrition and EmployeeID

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