**Python 3.7.6 (default, Jan 8 2020, 16:21:45) [MSC v.1916 32 bit (Intel)]**

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**IPython 7.12.0 -- An enhanced Interactive Python.**

**import numpy as np**

**import pandas as pd**

**from statsmodels.formula.api import ols**

**dataset=pd.read\_excel("ANCOVA1.xlsx",sheetname=0)**

**Traceback (most recent call last):**

**File "<ipython-input-4-239e5e89875d>", line 1, in <module>**

**dataset=pd.read\_excel("ANCOVA1.xlsx",sheetname=0)**

**File "C:\ProgramData\Anaconda3\lib\site-packages\pandas\io\excel\\_base.py", line 301, in read\_excel**

**raise TypeError(f"read\_excel() got an unexpected keyword argument `{arg}`")**

**TypeError: read\_excel() got an unexpected keyword argument `sheetname`**

**dataset=pd.read\_excel("ANCOVA1.xlsx",sheet\_name=0)**

**dataset.head()**

**Out[6]:**

**Store Number Sales Promotion Coupon ClietelRatings**

**0 1 10 1 1 9**

**1 2 9 1 1 10**

**2 3 10 1 1 8**

**3 4 8 1 1 4**

**4 5 9 1 1 6**

**model=ols('Sales~C(Promotion)',dataset).fit()**

**oneway=sm.stats.anova\_lm(model,typ=2)**

**Traceback (most recent call last):**

**File "<ipython-input-8-957b425cdcad>", line 1, in <module>**

**oneway=sm.stats.anova\_lm(model,typ=2)**

**NameError: name 'sm' is not defined**

**import statsmodels.api as sm**

**oneway=sm.stats.anova\_lm(model,typ=2)**

**print(oneway)**

**sum\_sq df F PR(>F)**

**C(Promotion) 106.066667 2.0 17.943609 0.000011**

**Residual 79.800000 27.0 NaN NaN**

**model=ols('Sales~C(Promotion)\*C(Coupon)',dataset).fit()**

**twoway=sm.stats.anova\_lm(model,typ=2)**

**print(twoway)**

**sum\_sq df F PR(>F)**

**C(Promotion) 106.066667 2.0 54.862069 1.116908e-09**

**C(Coupon) 53.333333 1.0 55.172414 1.143879e-07**

**C(Promotion):C(Coupon) 3.266667 2.0 1.689655 2.058092e-01**

**Residual 23.200000 24.0 NaN NaN**

**# correlation**

**from scipy.stats import pearsonr**

**dataset=pd.read\_excel("Correlation.xlsx",sheetname=1)**

**Traceback (most recent call last):**

**File "<ipython-input-17-db11ec30965d>", line 1, in <module>**

**dataset=pd.read\_excel("Correlation.xlsx",sheetname=1)**

**File "C:\ProgramData\Anaconda3\lib\site-packages\pandas\io\excel\\_base.py", line 301, in read\_excel**

**raise TypeError(f"read\_excel() got an unexpected keyword argument `{arg}`")**

**TypeError: read\_excel() got an unexpected keyword argument `sheetname`**

**dataset=pd.read\_excel("Correlation.xlsx",sheet\_name=1)**

**dataset.head()**

**Out[19]:**

**Respondent Number Attitude Duration Importance**

**0 1 6 10 3**

**1 2 9 12 11**

**2 3 8 12 4**

**3 4 3 4 1**

**4 5 10 12 11**

**a1=dataset.Attitude toward the City**

**File "<ipython-input-20-94be266172d5>", line 1**

**a1=dataset.Attitude toward the City**

**^**

**SyntaxError: invalid syntax**

**a1=dataset.Attitude**

**a2=dataset.Duration**

**stat, p = pearsonr(a1,a2)**

**print(stats,p)**

**Traceback (most recent call last):**

**File "<ipython-input-24-2d69f2b7ae98>", line 1, in <module>**

**print(stats,p)**

**NameError: name 'stats' is not defined**

**print(stat,p)**

**0.9360778239640097 7.545161167077795e-0**

**from scipy.stats import wilcoxon**

**dataset=pd.read\_excel("1 Wilcoxon.xlsx",sheetname=0)**

**dataset.head()**

**Out[26]:**

**ID TRT AGE WEIGHIN STAGE TOTALCIN TOTALCW2 TOTALCW4 TOTALCW6**

**0 1 0 52 124.0 2 6 6 6 7**

**1 5 0 77 160.0 1 9 6 10 9**

**2 6 0 60 136.5 4 7 9 17 19**

**3 9 0 61 179.6 1 6 7 9 3**

**4 11 0 59 175.8 2 6 7 16 13**

**d1=dataset.TOTALCIN**

**d2=dataset.TOTALCW2**

**stat, p=wilcoxon(d1,d2)**

**print(stat,p)**

**29.5 0.00259741456482**

**from scipy.stats import friedmanchisquare**

**d3=dataset.TOTALCW4**

**stat,p=friedmanchisquare(d1,d2,d3)**

**print(stat,p)**

**27.9277108434 8.62133745016e-07**

**from scipy.stats import mannwhitneyu**

**dataset1=pd.read\_excel("3 Mann Whitney.xlsx",sheetname=1)**

**dataset1.head()**

**Out[35]:**

**Design1 Design2**

**0 11 12**

**1 17 10**

**2 16 15**

**3 14 19**

**4 15 11**

**a1=dataset1.Design1**

**a2=dataset1.Design2**

**stat,p=mannwhitneyu(a1,a2)**

**print(stat,p)**

**9.0 0.264179663635**

**from scipy.stats import kruskal**

**dataset2=pd.read\_excel("4 Kruskal Wallis.xlsx",sheetname=0)**

**dataset2.head()**

**Out[42]:**

**Design1 Design2 Design3**

**0 11 12 6**

**1 17 10 8**

**2 16 15 10**

**3 14 19 2**

**4 15 11 10**

**b1=dataset2.Design1**

**b2=dataset2.Design2**

**b3=dataset2.Design3**

**stat,p=kruskal(b1,b2,b3)**

**print(stat,p)**

**9.05703971119 0.0107966448452**

**from scipy.stats import ttest\_1samp**

**dataset6=pd.read\_excel("1. One Sample.xlsx",sheetname=0)**

**dataset6.head()**

**Out[50]:**

**ids Height**

**0 43783 72.35**

**1 20278 70.66**

**2 20389 70.68**

**3 24559 67.43**

**4 28980 68.45**

**h1=dataset6.Height**

**stat,p=ttest\_1samp(h1,65)**

**print(stat,p)**

**11.4988002386 1.08789357016e-26**

**from scipy.stats import ttest\_rel**

**dataset3=pd.read\_excel("2. Paired Sample.xlsx",sheetname=0)**

**dataset3.head()**

**Out[56]:**

**ids English Math**

**0 43783 88.24 60.02**

**1 20278 89.45 70.19**

**2 20389 96.73 71.20**

**3 22820 74.06 55.89**

**4 24559 82.61 65.52**

**p1=dataset3.English**

**p2=dataset3.Math**

**stat,p=ttest\_rel(p1,p2)**

**print(stat,p)**

**36.3125689817 3.07109871922e-128**

**from scipy.stats import ttest\_ind**

**dataset4=pd.read\_excel("3. Independent Sample.xlsx",sheetname=3)**

**dataset4.head()**

**Out[63]:**

**Nonathelete Athelete**

**0 0.004413 0.004462**

**1 0.004872 0.005146**

**2 0.008851 0.004023**

**3 0.006508 0.003941**

**4 0.006314 0.004764**

**z1=dataset4.Nonathelete**

**z2=dataset4.Athelete**

**stat,p=ttest\_ind(z1,z2)**

**print(stat,p)**

**13.3687904321 7.11663315723e-33**