AI ML ASSIGNMENT DAY-12

Python 3.6.3 |Anaconda custom (32-bit)| (default, Oct 15 2017, 07:29:16) [MSC v.1900 32 bit (Intel)]

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IPython 6.1.0 -- An enhanced Interactive Python.

import pandas as pd

from scipy.stats import wilcoxon

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

dataset.head()

Out[4]:

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[15]:

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[22]:

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[30]:

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[36]:

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[50]:

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