hypothetical-testing

August 29, 2023

[6]:
```
import numpy as np
from scipy.stats import ttest_ind
a=np.array([1.00,12.5,0.13,1.40,1.50])
b=np.array([2.10,2.500,5.60,1.40,2.08])
t_stat,p_value=ttest_ind(a,b)
print(t_stat)
print(p_value)
if(p_value<0.5):
  print('its a null hypothesis')
else:
  print('it is not a null hypothesis')
```

```
0.23495753224476668
0.8201440439637067
it is not a null hypothesis
```

[7]:
```
import numpy as np
from scipy.stats import ttest_ind
a=np.array([11,12,13,14,15])
b=np.array([21,25,56,14,28])
t_stat,p_value=ttest_ind(a,b)
print(t_stat)
print(p_value)
if(p_value<0.5):
  print('its a null hypothesis')
else:
  print('it is not a null hypothesis')
```

```
-2.1860269050043177
0.06029330797723167
its a null hypothesis
```

[9]:
```
from scipy.stats import f_oneway #(first boolean expression)
a=np.array([12,13,15])
b=np.array([15,21,25])
c=np.array([54,89,86])
f_stat,p_value=f_oneway(a,b,c)
print(f_stat)
```

```
print(p_value)
if p_value<0.5:
  print('its anull hypothesis')
else:
  print('its not a null hypothesis')
```

```
26.56188118811884
0.0010451233783607978
its anull hypothesis
```

[11]:
```
a=np.array([1.2,13,15])
b=np.array([1.5,2.6,25])
c=np.array([54,5.9,8.6])
f_stat,p_value=f_oneway(a,b,c)
print(f_stat)
print(p_value)
if p_value<0.5:
  print('its anull hypothesis')
else:
  print('its not a null hypothesis')
```

```
0.5366282213011353
0.6103733168532465
its not a null hypothesis
```

[25]:
```
from scipy.stats import chi2_contingency
a=np.array([[14,15],[21,65]])
b=chi2_contingency(a)
print(b.statistic)
p_value=b.pvalue
print(p_value)
if p_value<0.05:
  print('it is a null hypothesis')
else:
  print('it is not a null hypothesis')
```

```
4.757735529556651
0.0291668967180607
it is a null hypothesis
```

[20]:
```

```

[20]:
```
0.008655478161175739
```

[ ]:
```

```