- NAME:RAIYAN RIYAZ CHANDLE
- ROLL NO:B15
- PRN:2324000573
- EXPERIMENT NO:6
- TITLE:HYPOTHESIS TESTING USING Chi_test

```
import numpy as np
```

```
from scipy.stats import chi2_contingency
```

```
data=np.random.randint(1,11,size=(2,10))
```

```
data
```

```
array([[ 4,  8,  5,  2,  5,  8,  4,  3,  5,  7],
       [ 9,  7, 10,  4,  3,  4, 10, 10,  6,  8]])
```

```
chi2_contingency(data)
```

```
Chi2ContingencyResult(statistic=9.634889633978284, pvalue=0.3808430306568172, dof=9, expected_freq=array([[5.43442623, 6.2704918 ,
6.2704918 , 2.50819672, 3.3442623 ,
        5.01639344, 5.85245902, 5.43442623, 4.59836066, 6.2704918 ],
       [7.56557377, 8.7295082 , 8.7295082 , 3.49180328, 4.6557377 ,
        6.98360656, 8.14754098, 7.56557377, 6.40163934, 8.7295082 ]]))
```

```
stat , pvalue , dof ,expected = chi2_contingency(data)
```

```
print(f"chi2_contingency_value={stat}")
print(f"pvalue={pvalue}")
print(f"dof={dof}")
print(f"expected_value={expected}")
```

```
chi2_contingency_value=18.390111117585693
pvalue=0.01848456240399373
dof=8
expected_value=[[9.52857143 2.48571429 6.62857143 5.8        4.55714286]
 [7.55714286 1.97142857 5.25714286 4.6        3.61428571]
 [5.91428571 1.54285714 4.11428571 3.6        2.82857143]]
```

```
Start coding or generate with AI.
```

```
Start coding or generate with AI.
```