

**DELHI TECHNOLOGICAL  
UNIVERSITY**

**PROBABILITY AND STATISTICS (MC-  
205)**

**PRACTICAL FILE**



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**(2K19/MC/089)**

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## EXPERIMENT 9

### Chi-square Test

#### SOURCE CODE:

##### Chi-square Test of Independence

```
tbl=cbind(x=c(12,23,26,17,9,45),y=c(34,25,41,19,53,33))
```

```
chisq.test(tbl)
```

```
chisq.test(rnorm(10),rnorm(10))
```

#### OUTPUT:

##### Chi-square Test of Independence

```
> tbl=cbind(x=c(12,23,26,17,9,45),y=c(34,25,41,19,53,33))
> tbl
      x y
[1,] 12 34
[2,] 23 25
[3,] 26 41
[4,] 17 19
[5,]  9 53
[6,] 45 33
> chisq.test(tbl)

        Pearson's Chi-squared test

data:  tbl
X-squared = 32.876, df = 5, p-value = 3.983e-06
.

> chisq.test(rnorm(10),rnorm(10))

        Pearson's Chi-squared test

data:  rnorm(10) and rnorm(10)
X-squared = 90, df = 81, p-value = 0.2313
```

## CONCLUSION:

A **chi-squared test**, is a statistical hypothesis test that is valid to perform when the test statistic is chi-squared distributed under the null hypothesis, specifically Pearson's chi-squared test and variants thereof.

**Pearson's chi-squared** test is used to determine whether there is a statistically significant difference between the expected frequencies and the observed frequencies in one or more categories of a contingency table.