We will perform the chi-square test of independence to see if there is a relationship between playing mobile games and class of students.

Here is the table of the given data:

|  |  |  |
| --- | --- | --- |
| **Class of Students** | **Play Mobile Games** | **Not Play Mobile Games** |
| M.A. | 5 | 2 |
| M.Sc. | 8 | 2 |
| M.Com | 2 | 0 |
| Bsc | 70 | 28 |
| BA | 3 | 2 |
| Bcom | 2 | 1 |
| BBA | 6 | 1 |
| BCA | 5 | 0 |
| Bvoc-Account and Tax | 1 | 0 |
| Bvoc-Food and Tech | 2 | 0 |
| Bvoc-Renew and Management | 4 | 0 |
| Total | 108 | 35 |

**Hypothesis:**

* Null Hypothesis (H0): There is no significant relationship between playing mobile games and class of students.
* Alternate Hypothesis (H1): There is a significant relationship between playing mobile games and class of students.

We will use the chi-square test to test our hypothesis with a significance level of 0.05.

**Performing Chi-Square Test in R:**

Here are the R commands to perform the chi-square test in R:

data <- matrix(c(5, 8, 2, 70, 3, 2, 6, 5, 1, 2, 4, 2, 2, 0, 28, 2, 1, 1, 0, 0, 0, 0), nrow = 2, byrow = TRUE)

row.names(data) <- c("students who play mobile games", "students who not play mobile games")

colnames(data) <- c("MA", "Msc", "Mcom", "Bsc", "BA", "Bcom", "BBA", "BCA", "Bvoc-Account and Tax", "Bvoc-Food and Technology", "Bvoc-Renew and Management")

data

model <- chisq.test(data)

model

**Output :**

**> data <- matrix(c(5, 8, 2, 70, 3, 2, 6, 5, 1, 2, 4, 2, 2, 0, 28, 2, 1, 1, 0, 0, 0, 0), nrow = 2, byrow = TRUE)**

**> row.names(data) <- c("students who play mobile games", "students who not play mobile games")**

**> colnames(data) <- c("MA", "Msc", "Mcom", "Bsc", "BA", "Bcom", "BBA", "BCA", "Bvoc-Account and Tax", "Bvoc-Food and Technology", "Bvoc-Renew and Management")**

**> data**

**MA Msc Mcom Bsc BA Bcom BBA BCA Bvoc-Account and Tax Bvoc-Food and Technology Bvoc-Renew and Management**

**students who play mobile games 5 8 2 70 3 2 6 5 1 2 4**

**students who not play mobile games 2 2 0 28 2 1 1 0 0 0 0**

**> model <- chisq.test(data)**

**> model**

**Pearson's Chi-squared test**

**data: data**

**X-squared = 6.654, df = 10, p-value = 0.7577**

**Conclusion:** The chi-square test has a p-value of 0.7577, which is greatert than significance level of 0.05. Therefore, **we accept the null hypothesis** and conclude that there is a **not significant relationship** between playing mobile games and class of students.