

# Conditional Statements in R Language

Complete Notes with Practice Codes (Roman Urdu)

## 1 Introduction

Conditional statements R language me decision making ke liye use hotay hain. In statements ke zariye program decide karta hai ke kaunsa code execute hoga aur kaunsa nahi.

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## 2 If Statement

### Definition

if statement tab use hota hai jab sirf ek condition check karni ho. Agar condition TRUE ho to code execute hota hai, warna kuch bhi nahi hota.

### Syntax

```
if (condition) {  
  # code  
}
```

### Practice Codes (10)

```
x <- 10  
if (x > 5) { print("Greater than 5") }  
  
age <- 20  
if (age >= 18) { print("Eligible") }  
  
marks <- 45  
if (marks >= 50) { print("Pass") }  
  
temp <- 35  
if (temp > 30) { print("Hot Weather") }
```

```
salary <- 60000
if (salary > 50000) { print("High Salary") }

num <- -5
if (num < 0) { print("Negative") }

speed <- 80
if (speed > 60) { print("Overspeeding") }

balance <- 0
if (balance == 0) { print("Zero Balance") }

items <- 15
if (items > 10) { print("Bulk Order") }

score <- 90
if (score == 100) { print("Perfect Score") }
```

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## 3 If Else Statement

### Definition

if else tab use hota hai jab do possible decisions hon. Agar condition TRUE ho to if, warna else execute hota hai.

### Syntax

```
if (condition) {
  # true block
} else {
  # false block
}
```

### Practice Codes (10)

```
age <- 16
if (age >= 18) { print("Adult") } else { print("Minor") }

marks <- 40
if (marks >= 50) { print("Pass") } else { print("Fail") }
```

```

num <- 7
if (num %% 2 == 0) { print("Even") } else { print("Odd") }

temp <- 25
if (temp > 30) { print("Hot") } else { print("Normal") }

balance <- 500
if (balance > 0) { print("Available") } else { print("Empty") }

speed <- 45
if (speed > 60) { print("Fast") } else { print("Safe") }

salary <- 40000
if (salary >= 50000) { print("Taxable") } else { print("No Tax")
}

x <- -3
if (x > 0) { print("Positive") } else { print("Negative") }

login <- TRUE
if (login) { print("Welcome") } else { print("Access Denied") }

stock <- 0
if (stock > 0) { print("In Stock") } else { print("Out of Stock")
}

```

## 4 Else If Statement

### Definition

else if tab use hota hai jab multiple conditions ko step by step check karna ho.

### Syntax

```

if (condition1) {
} else if (condition2) {
} else {
}

```

### Practice Codes (10)

```

marks <- 85
if (marks >= 80) { print("A") }
else if (marks >= 60) { print("B") }
else { print("Fail") }

temp <- 15
if (temp > 30) { print("Hot") }
else if (temp >= 20) { print("Warm") }
else { print("Cold") }

age <- 65
if (age < 18) { print("Child") }
else if (age < 60) { print("Adult") }
else { print("Senior") }

score <- 90
if (score == 100) { print("Perfect") }
else if (score >= 50) { print("Pass") }
else { print("Fail") }

time <- 14
if (time < 12) { print("Morning") }
else if (time < 18) { print("Afternoon") }
else { print("Evening") }

salary <- 30000
if (salary > 80000) { print("High") }
else if (salary > 40000) { print("Medium") }
else { print("Low") }

units <- 120
if (units > 200) { print("Heavy") }
else if (units > 100) { print("Normal") }
else { print("Low") }

rating <- 4
if (rating == 5) { print("Excellent") }
else if (rating >= 3) { print("Good") }
else { print("Poor") }

day <- 6
if (day == 7) { print("Sunday") }
else if (day == 6) { print("Saturday") }
else { print("Working Day") }

```

```
fuel <- 10
if (fuel == 0) { print("Empty") }
else if (fuel < 15) { print("Low") }
else { print("Enough") }
```

## 5 Nested If Else Statement

### Definition

Nested if ka matlab hai if ke andar if. Inner condition sirf tab check hoti hai jab outer condition TRUE ho.

### Golden Rule

Outer if FALSE ho to inner if execute nahi hota.

### Practice Codes (10)

```
marks <- 70
if (marks >= 50) {
  if (marks >= 80) { print("A") } else { print("B") }
} else { print("Fail") }

attendance <- 80
marks <- 45
if (attendance >= 75) {
  if (marks >= 50) { print("Pass") } else { print("Fail Marks") }
} else { print("Fail Attendance") }

age <- 22
gender <- "M"
if (age >= 18) {
  if (gender == "M") { print("Adult Male") } else { print("Adult
    Female") }
}

balance <- 5000
pin <- TRUE
if (pin) {
  if (balance > 0) { print("Withdraw Allowed") } else { print("No
    Balance") }
```

```

}

speed <- 90
if (speed > 60) {
  if (speed > 100) { print("Heavy Fine") } else { print("Normal
    Fine") }
}

login <- TRUE
admin <- FALSE
if (login) {
  if (admin) { print("Admin Access") } else { print("User Access
    ") }
}

temp <- 35
if (temp > 30) {
  if (temp > 40) { print("Extreme Heat") } else { print("Hot") }
}

marks <- 55
if (marks >= 50) {
  if (marks >= 90) { print("Topper") } else { print("Average Pass
    ") }
}

experience <- 3
if (experience >= 1) {
  if (experience >= 5) { print("Senior") } else { print("Junior")
    }
}

fuel <- 20
engine <- TRUE
if (engine) {
  if (fuel > 0) { print("Car Running") } else { print("No Fuel")
    }
}

```

## 6 Conclusion

Conditional statements program ko intelligent banatay hain. Nested if complex decision making ke liye use hota hai jab ek condition dusri condition par depend karti ho.