

How can the conditional mean be calculated in R, and what are some examples?

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The conditional mean is a statistical measure used to calculate the average value of a variable given certain conditions or criteria. In R, the conditional mean can be calculated using the "mean" function along with the "if" statement. This allows for the calculation of the mean for a specific subset of data based on a given condition. For example, in a dataset of students' grades, the conditional mean for students who scored above 90 can be calculated using the "mean" function and the condition "if grade > 90". Other examples of calculating the conditional mean in R include analyzing sales data for a specific product in a particular region, or determining the average income for individuals with a certain level of education. The conditional mean is a useful tool for analyzing and understanding data in a more specific and targeted manner.

Calculate Conditional Mean in R (With Examples)

You can use the following syntax to calculate a conditional mean in R:

```
mean(df)
```

This calculates the mean of the 'points' column for every row in the data frame where the 'team' column is equal to 'A.'

The following examples show how to use this syntax in practice with the following data frame:

```
#create data frame
```

```
df <- data.frame(team=c('A', 'A', 'A', 'B', 'B', 'B'),  
points=c(99, 90, 93, 86, 88, 82),  
assists=c(33, 28, 31, 39, 34, 30))
```

```
#view data frame
```

```
df
```

```
team points assists
```

```
1 A 99 33
```

```
2 A 90 28
```

```
3 A 93 31
```

```
4 B 86 39
```

```
5 B 88 34
```

```
6 B 82 30
```

Example 1: Calculate Conditional Mean for Categorical Variable

The following code shows how to calculate the mean of the 'points' column for only the rows in the data frame where the 'team' column has a value of 'A.'

```
#calculate mean of 'points' column for rows where team  
equals 'A'  
mean(df)
```

94

The mean value in the 'points' column for the rows where 'team' is equal to 'A' is 94.

We can manually verify this by calculating the average of the points values for only the rows where 'team' is equal to 'A':

Average of Points: $(99 + 90 + 93) / 3 = 94$

Example 2: Calculate Conditional Mean for Numeric Variable

The following code shows how to calculate the mean of the 'assists' column for only the rows in the data frame where the 'points' column has a value greater than or equal to 90.

```
#calculate mean of 'assists' column for rows where  
'points' >= 90  
mean(df)
```

30.66667

The mean value in the 'assists' column for the rows where 'points' is greater than or equal to 90 is 30.66667.

We can manually verify this by calculating the average of the assists values for only the rows where points is greater than or equal to 90:

Average of Assists: $(33 + 28 + 31) / 3 = 30.66667$

Additional Resources

The following tutorials explain how to calculate other mean values in R:

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