

What is the process for finding the F critical value in R?

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The process for finding the F critical value in R involves using the "qf" function, which calculates the quantiles of the F distribution. This function requires two parameters - the desired probability level and the degrees of freedom for the numerator and denominator. The output of the "qf" function is the F critical value, which can be used for hypothesis testing and determining the significance of the F statistic. It is important to note that the F critical value is dependent on the chosen probability level and degrees of freedom, and may vary for different statistical tests. Therefore, it is crucial to carefully select the appropriate parameters when using the "qf" function to find the F critical value in R.

Find the F Critical Value in R

When you conduct an F test, you will get an F statistic as a result. To determine if the results of the F test are statistically significant, you can compare the F statistic to an F critical value.

If the F statistic is greater than the F critical value, then the results of the test are statistically significant.

The F critical value can be found by using an or by using statistical software.

To find the F critical value, you need:

A significance level (common choices are 0.01, 0.05, and 0.10)
Numerator degrees of freedom
Denominator degrees of freedom

Using these three values, you can determine the F

critical value to be compared with the F statistic.

How to Find the F Critical Value in R

To find the F critical value in R, you can use the `qf()` function, which uses the following syntax:

`qf(p, df1, df2, lower.tail=TRUE)`

where:

p: The significance level to use
df1: The numerator degrees of freedom
df2: The denominator degrees of freedom
lower.tail: If TRUE, the probability to the left of p in the F distribution is returned. If FALSE, the probability to the right is returned. Default is TRUE.

This function returns the critical value from the F distribution based on the significance level, numerator degrees of freedom, and denominator degrees of freedom provided.

For example, suppose we would like to find the F critical value for a significance level of 0.05, numerator degrees of freedom = 6, and denominator degrees of freedom = 8.

```
#find F critical value
```

```
qf(p=.05, df1=6, df2=8, lower.tail=FALSE)
```

3.58058

The F critical value for a significance level of 0.05, numerator degrees of freedom = 6, and denominator degrees of freedom = 8 is 3.58058.

Thus, if we're conducting some type of F test then we can compare the F test statistic to 3.58058. If the F statistic is greater than 3.58058, then the results of the test are statistically significant.

Note that smaller values of alpha will lead to larger F critical values. For example, consider the F critical value for a significance level of 0.01, numerator degrees of freedom = 6, and denominator degrees of freedom = 8.

```
#find F critical value
```

```
qf(p=.01, df1=6, df2=8, lower.tail=FALSE)
```

6.370681

And consider the F critical value with the exact same degrees of freedom for the numerator and denominator, but with a significance level of 0.005:

#find F critical value

qf(p=.005, df1=6, df2=8, lower.tail=FALSE)

7.951992

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