wilcox-test.pdf

If you want to run a non-parametric paired significance test, you can use the Wilcoxon Signed Rank Test. It is basically a test of the symmetry between two related data vectors. The values of each vector are assigned a rank. In this way, you do not have to assume normality like you would for a paired t-test.

If values are identical in the data set, you will get a warning message, but as long as there are only a few ties it should not affect your conclusions.

The data that I am using is iris.txt

iris <- read.table("iris.txt")

I want to compare sepal length between *setosa* and *versicolor*.

setosa <- iris$Sepal.Length[iris$Species == "setosa"]

versicolor <- iris$Sepal.Length[iris$Species == "versicolor"]

Run the test using the build in function

wilcox.test(setosa,versicolor,paired=TRUE)

The output:

```
Wilcoxon signed rank test with continuity correction

data:  setosa and versicolor
V = 19, p-value = 3.587e-09
alternative hypothesis: true location shift is not equal to 0

Warning messages:
1: In wilcox.test.default(setosa, versicolor, paired = TRUE) :
  cannot compute exact p-value with ties
2: In wilcox.test.default(setosa, versicolor, paired = TRUE) :
  cannot compute exact p-value with zeroes
```

The error indicates that there are ties, which is to be expected with length measurements. It should not be an issue.