5/10 PAIRED DATA !!!

Ex1

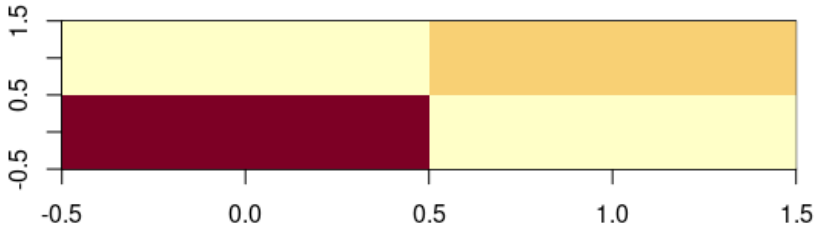
a)

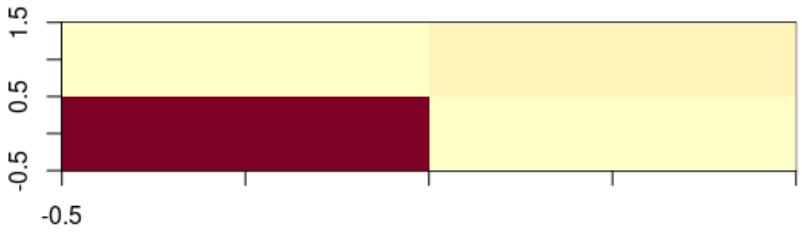
We perform a test on the means of two groups, the test is: H0: mu.1=mu.2 vs H1: mu.1 != mu.2
Fisher quantile is 6.665032 and the test statistic is 0.4815451, we accept the null hypothesis, the means are equivalent

b)

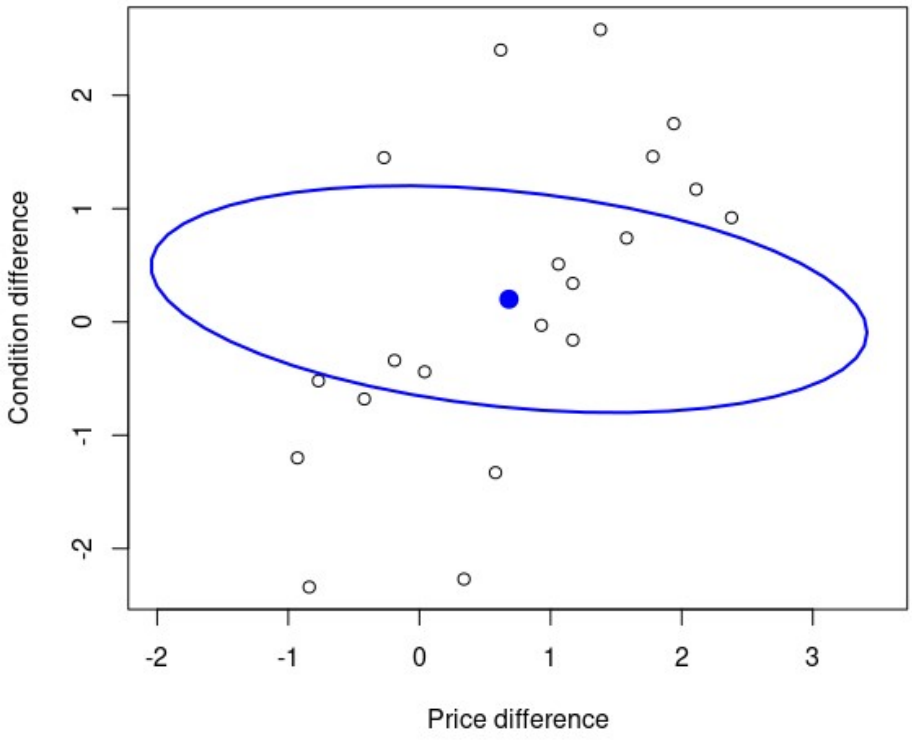
Assumptions: normality in each group, independence and same covariance:

- We can assume independence since the stores are different. NO
- Normality is verified doing 2 mcshapiro test (both p-value were very high)
- This is an image of the 2 covariances, we can say that the assumption on covariance is verified





c)



d)
Intervals of the mean difference are

- Price difference: -2.807172 0.6830 4.173172
- Condition difference: -1.079863 0.2005 1.480863

Intervals of the variance are

- price: 14.12882 22.36638 40.1193
- condition: 1.901421 3.01001 5.399152

Interpretations:

1. Both intervals on the difference of the mean contain the zero: we can't say that the means between the 2 stores is different
2. As we can see from the confidence region plot, the interval of the variance of the price different is larger than the one from condition difference