STAT 3232

Quiz 04

212137

Hypothesis

H0: µ = 25

H1: µ ≠ 25

> Weight<-c(17.6,20.6,22.2,15.3,20.9,21,18.9,18.9,18.9,18.2)

> Weight

[1] 17.6 20.6 22.2 15.3 20.9 21.0 18.9 18.9 18.9 18.2

> t.test(Weight, alternative ="two.sided",mu=25)

One Sample t-test

data: Weight

t = -9.0783, df = 9, p-value = 7.953e-06

alternative hypothesis: true mean is not equal to 25

95 percent confidence interval:

17.8172 20.6828

sample estimates:

mean of x

19.25

Since p-value is less than 0.05, H0 is rejected at th 5% level of significance level. Therefore, we can conclude that the average weight of the mice differs from 25g.

Hypothesis

H0: µB ≤ µG

H1: µB > µG

> Boy<-c(56,65,47,46,60,56,45,39,50,45,39,42,42,33,47,57,45,50,45,42)

> Girl<-c(56,65,37,47,60,46,35,41,40,45,34,42,42,43,37,47,45,50,45,42)

> t.test(Boy,Girl,alternative="greater",var=T)

Two Sample t-test

data: Boy and Girl

t = 1.0381, df = 38, p-value = 0.1529

alternative hypothesis: true difference in means is greater than 0

95 percent confidence interval:

-1.622776 Inf

sample estimates:

mean of x mean of y

47.55 44.95

Since the p-value is greater 0.05 H0 do not rejected. Therefore, we don’t have enough evidence to say that the mean body weight of boys is greater than that of girls.