STATISTICS FOR ENGINEERS LAB

EXPERIMENT- 5

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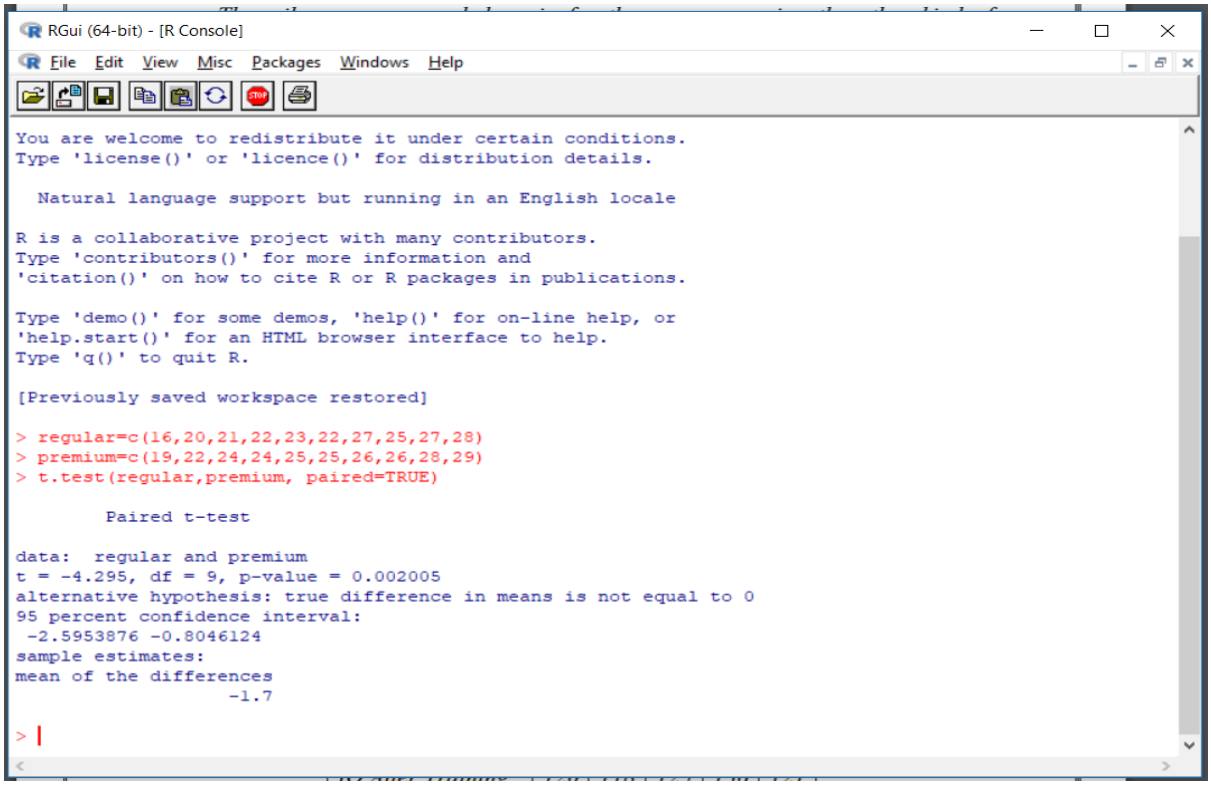
1. A study was performed to test whether cars get better mileage on premium gas than on regular gas. Each of 10 cars was first filled with either regular or premium gas, decided by a coin toss, and mileage for that tank was recorded. The mileage was recorded again for the same car using the other kind of gasoline. We use a paired t – test to determine whether cars get significant better mileage with premium gas.

   Regular 16 20 21 22 23 22 27 25 27 28

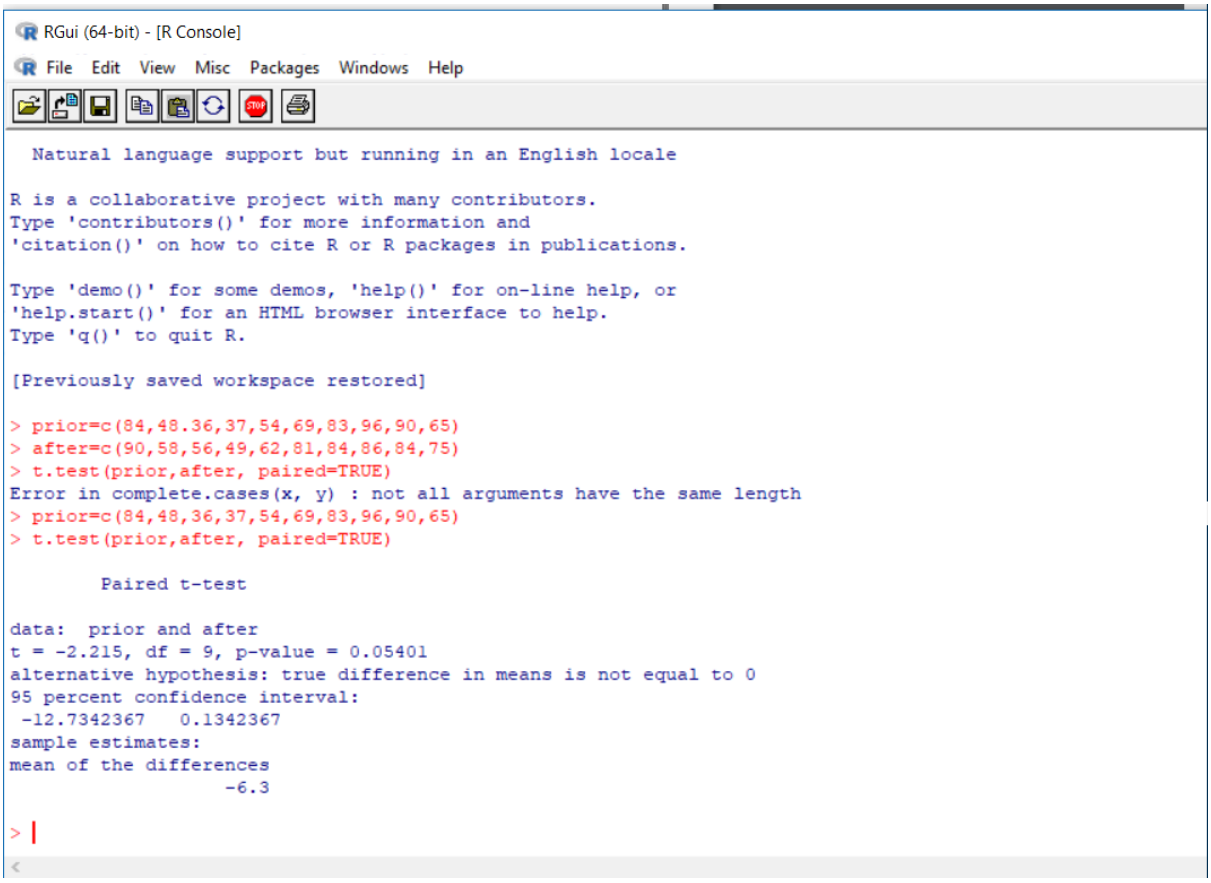
   Premium 19 22 24 24 25 25 26 26 28 29



***Inference**: -*

The value of p< 0.05 implies that premium gas has made a significant change in improving the mileage of the cars.

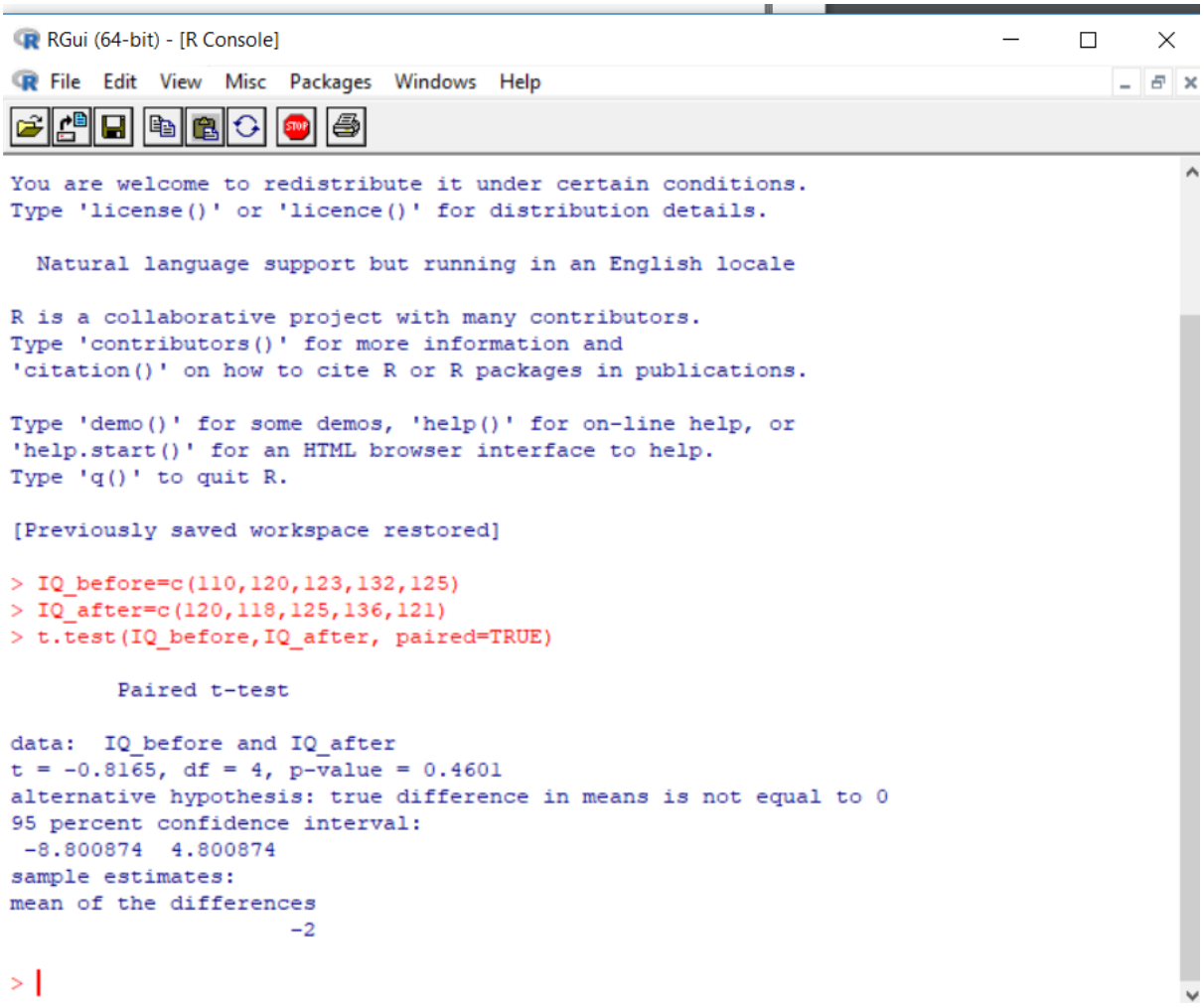
2. The Scores of 10 candidates prior and after training are given below
   Prior 84 48 36 37 54 69 83 96 90 65
   After 90 58 56 49 62 81 84 86 84 75
   Test whether the training was effective or not?



Inference: -
Since the value of p> 0.05 but so we cannot reject the null hypothesis. Hence the training was not effective.

3. An IQ test was administrated to 5 persons before and after they were trained.
   The results are given below
   Candidates I II III IV V

IQ before Training 110 120 123 132 125
IQ After Training 120 118 125 136 121



Inference: -

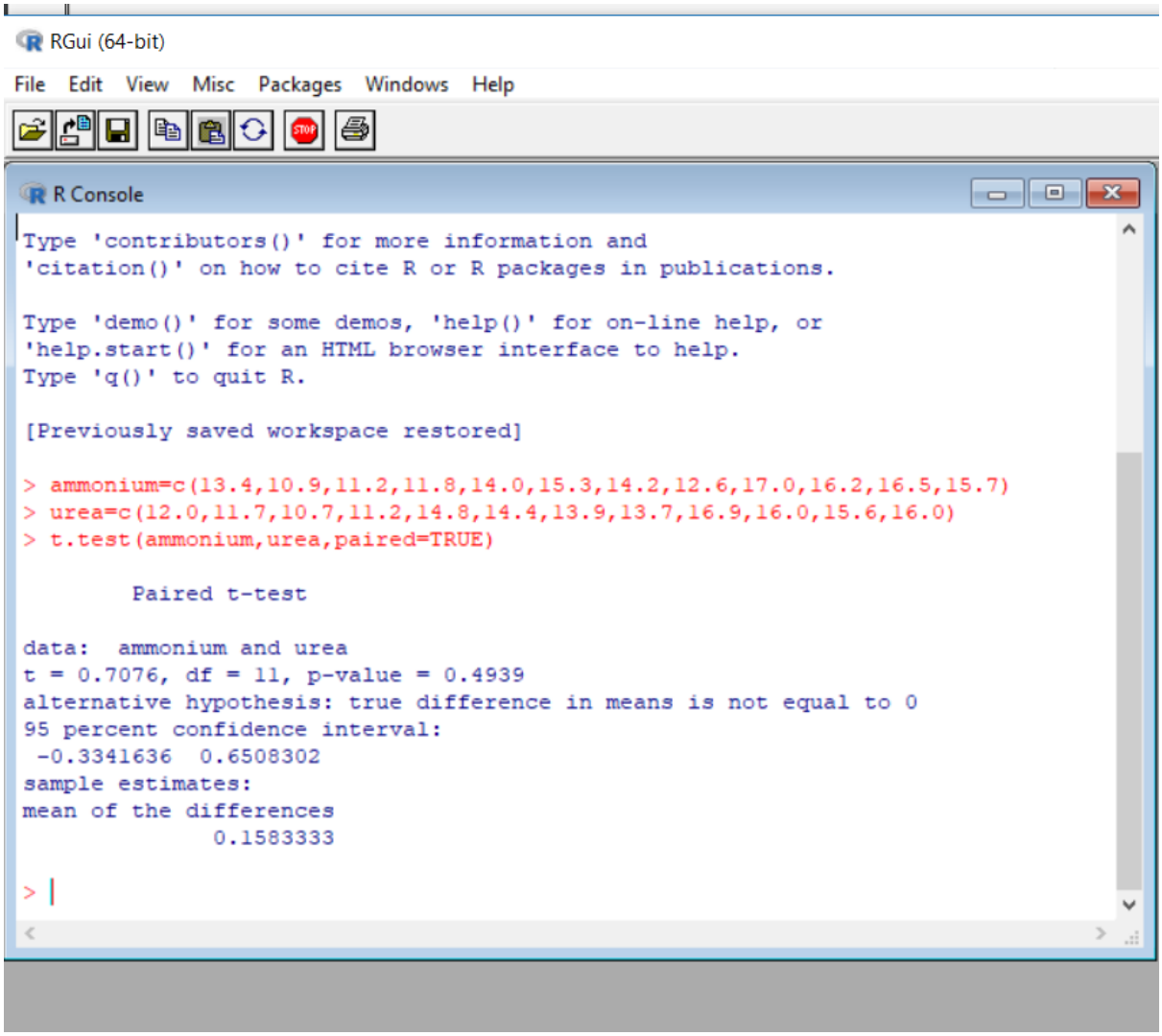
Since the value of p>0.05 at 5% Los. Hence we cannot reject the null hypothesis.

Hence there is no change in the IQ of the Students

4. *In order to compare the effectiveness of two sources of nitrogen, namely ammonium chloride and urea on grain yield of paddy, an experiment was conducted. The results on the grain yield of paddy(kg/plot) under the two treatments are given below : -*

Ammonium chloride 13.4 10.9 11.2 11.8 14.0 15.3 14.2 12.6 17.0 16.2 16.5 15.7
Urea 12.0 11.7 10.7 11.2 14.8 14.4 13.9 13.7 16.9 16.0 15.6 16.0

Asses which sources nitrogen is better for paddy



Inference: -

Since the value of p >0.05. Hence we can conclude that both the sources of Nitrogen are better for Paddy.

----------THANK YOU----------