2. On an average, males drink 2L water per day with standard deviation σ = 0.7L. We are planning for a full day trip for 50 Men with 110L of water.

 What is the probability that we will run out of water?

**Solution**

Mean x = 2

SD sigma = 0.7

Xbar = 2.2

N = 20

z = (xbar - x)/(sigma/√n)

z = (2.2 - 2)/(1/√50)

z = 2.0202

Checking with Z –table , we get the probability of getting water which is 0.978 .So the probability that we will run out of water is 1 - 0.978 = 0.0217

**Hence there is 2.17% of probability that we will run out of water**

 With a Significance level of 5 %, can we say that we will run of water?