**Problem​ ​Statement​ ​**

Blood glucose levels for obese patients have a mean of 100 with a standard deviation of 15. A researcher thinks that a diet high in raw cornstarch will have a positive effect on blood glucose levels. A sample of 36 patients who have tried the raw cornstarch diet have a mean glucose level of 108. Test the hypothesis that the raw cornstarch had an effect or not.

**Solution**

The population mean is 100.

H0: μ= 100  
H1: μ > 100

let’s say significance level 5% (0.05).

z= x- μ/SD  
z= (108-100) / (15/√36) =3.20

p-value(z3.20) = 0.9993

i.e. probability of having value less than 108 is 0.9993 and more than or equals to 108 is (1-0.9993)=0.0007.

It is less than 0.05 so we will reject the Null hypothesis.