**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:**

**STEP 1:** Set up the hypothesis

H0:  = 100 (Null Hypothesis)

H1:  > 100 (Alternate Hypothesis)

The fact that we are looking for glucose levels “greater than” a certain point, means that this is a one-tailed test.

**STEP 2**: Set up the confidence interval.

It is not given in the problem so let’s assume it as 5% (0.05)

**STEP 3:**

Find the Z critical value for the given probability

ZCritical = 1.65

**STEP 4**:

Calculate the Z Score using the below formula:

Z = (- ) / (σ / )

Z = (108 – 100) / (15 / √36) = 3.2

Since Z > ZCritical, we can reject the Null hypothesis,so the raw cornstarch had an effect.