**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**

Given values as below

Mean of the blood glucose levels = 100

Standard Deviation = 15

Going by the Hypothesis Tests,

Null Hypothesis Says,

H0 : Mean = 100

Alternate Hypothesis Says,

Ha : Mean ≠ 100 and > 100

From the above data if we calculate the z value,

Z = (X – mean) / (S.D / sqrt(Sample Size))

Z = (108 – 100) / (15/sqrt(36))

Z = 8/2.5 = 3.2

The level of confidence and the lever of significance are not stated in the problem, hence going by the level of significance of 5%, which is 0.05

From the Z table,

P(Glucose < 108) = 0.9993

P(Glucose >= 108) = 1 – 0.9993 = 0.0007

Going by the comparison between the level of significance and the p value,

0.0007 < 0.05

Hence, we can reject the Null Hypothesis, and accept the alternate Hypothesis.

Statement: There would be a positive effect of Raw cornstarch on the blood glucose levels of obese patients