Question : 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 corn starch 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 corn starch had an effect or not.

Answer : **Ho (null hypothesis): raw corn starch diet has no effect**

**Ha (alternate hypothesis): raw corn starch diet has positive effect**

**I have to perform one tailed test because only positive effect is to be tested and by default the Level of Significance(α) value is 0.05**

**Referring left Z table for probability percentage as (1-0.05 = 0.95) which falls in the non-critical region and the corresponding z score critical value is found as 1.645, so if calculated z score value is more than z score critical value than reject null hypothesis otherwise accept null hypothesis.**

**Standard error of sampling distribution (SE) = population standard deviation/sqrt(number of samples) = 15/sqrt(36) = 15/6 = 2.5**

**Z score calculated value of standard normal distribution = (sample mean - population mean)/SE = 108-100/2.5 = 8/2.5 = 3.2**

**So, I can infer that a diet high in raw corn starch will have a positive effect on blood glucose levels.**