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Z-Test and T-Test

What is Z-test?

- Z-test is a statistical test used to determine whether there is a significant difference between sample and population means or between the means of two samples. It is typically used when the sample size is large (generally $n > 30$) and the population standard deviation is known. The Z-test is based on the standard normal distribution (Z-distribution).
- The Z-test compares the means of two populations with a large sample size (typically ≥ 30) and known population standard deviation.
- It assesses whether the difference between the means is statistically significant.

Types of Z-Test

There are two types of Z-test i.e.,

1. One-Sample Z-Test

- Compares the sample mean to a known population mean.
- Used to determine if the sample comes from a population with a specific mean.

2. Two-Sample Z-Test

- Compares the means of two independent samples.
- Used to determine if there is a significant difference between the two sample means.