The sample standard deviation of P/E ratios for stocks listed on the Sydney Stock Ex-change is s = 7.8. Assume that we are now interested in estimating the population mean P/E ratio for all stocks listed on the Sydney Stock Exchange in July 2004. How many stocks should be included in the sample if we want a margin of error of 2? Use a 95% confidence level.

Solution

Here we have

$s = 7.8, ME = 2$, Confidence interval$= 0.95$, critical value at 5% $(z) = 1.96$

We need to find the sample size:

$n = \frac{s*s*z*z}{ME*ME} = \frac{7.8*7.8*1.96*1.96}{2*2} = 58$

So we need 58 stocks should be included in the sample if we want a margin of error of 2.

Answer: 58 stocks