

STAT 340

Chapter 14 - Practice Questions Part III

Hypothesis Testing

The desired systolic blood pressure is 120. Suppose that systolic blood pressure follows a normal distribution with a standard deviation of 15. The medical director of a large company, who thought that stress may cause blood pressure to go up, took the blood pressures of 36 executives and found an average systolic blood pressure of 126. Can we say that these executives have a significantly higher systolic blood pressure than the desired 120?

1. What type of test (one-tail, two-tail) is this? (Write the null and alternative hypotheses)
2. In words, what does μ represent?

$$X =$$

$$\mu_o =$$

$$\sigma =$$

$$X \sim N(\quad , \quad)$$

$$\bar{X} =$$

$$\bar{x} =$$

$$n =$$

$$\bar{X} \sim N(\quad , \quad)$$

3. Calculate the test statistic.

$$z = \frac{\bar{x} - \mu_0}{\sigma/\sqrt{n}}$$

4. Find the p-value.

5. Write the conclusion (use a significance level of 0.05)