

- 9.7** (a) $\bar{X} \pm z_{0.05} \frac{\sigma}{\sqrt{n}} = 37.7 \pm (1.645) \frac{9.2}{\sqrt{100}} = \boxed{37.7 \pm 1.5 \text{ or } [36.2, 39.2]}$
- (b) Test $H_0 : \mu = 35$ vs $H_A : \mu > 35$. Reject H_0 if the test statistic $Z > z_{0.01} = 2.326$.
The observed test statistic is

$$Z = \frac{\bar{X} - \mu_0}{\sigma/\sqrt{n}} = \frac{37.7 - 35}{9.2/\sqrt{100}} = 2.9348,$$

belongs to the rejection region. Therefore, reject H_0 in favor of H_A . Yes, these data provide significant evidence that the mean number of concurrent users is greater than 35.