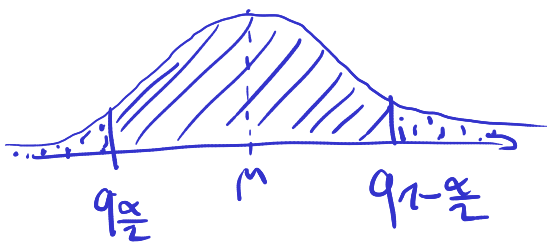


940

$$P(q_{\frac{\alpha}{2}} \leq T_n \leq q_{1-\frac{\alpha}{2}}) = 1 - \alpha$$

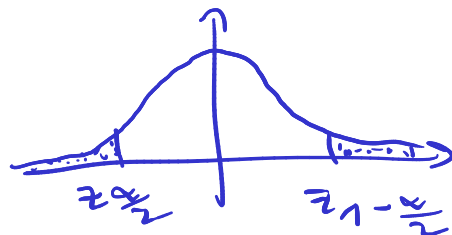
↑ normalverteilt mit μ und $\sqrt{\frac{\sigma^2}{n}}$



$$= P\left(\underbrace{\frac{q_{\frac{\alpha}{2}} - \mu}{\sigma/\sqrt{n}}}_{= z_{\frac{\alpha}{2}}} \leq \frac{T_n - \mu}{\sigma/\sqrt{n}} \leq \underbrace{\frac{q_{1-\frac{\alpha}{2}} - \mu}{\sigma/\sqrt{n}}}_{= z_{1-\frac{\alpha}{2}}}\right)$$

$$= P\left(z_{\frac{\alpha}{2}} \leq \frac{T_n - \mu}{\sigma/\sqrt{n}} \leq z_{1-\frac{\alpha}{2}}\right)$$

$$= P\left(T_n - \frac{\sigma}{\sqrt{n}} z_{1-\frac{\alpha}{2}} \leq \mu \leq T_n - \frac{\sigma}{\sqrt{n}} z_{\frac{\alpha}{2}}\right)$$



$$z_{\frac{\alpha}{2}} = -z_{1-\frac{\alpha}{2}}$$

$$= P\left(T_n - \frac{\sigma}{\sqrt{n}} z_{1-\frac{\alpha}{2}} \leq \mu \leq T_n + \frac{\sigma}{\sqrt{n}} z_{1-\frac{\alpha}{2}}\right)$$