

STAT2372 Assignment

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The original source code for this assignment can be found here after I make the repo public.

Question 1

- (a) Let X be a random variable with mean 0 and finite variance σ^2 . By applying Markov's inequality to the random variable $W = (X + t)^2$, where $t > 0$, show that

$$P(X > a) \leq \frac{\sigma^2}{\sigma^2 + a^2} \quad \text{for any } a > 0.$$