STAT 303
HW (3)

Due: 8/11/24

— Let $X_1, \dots X_n$ iid r.v.s $\sim U(0, \theta)$ but actually $\theta = 3$.

i) Generate random numbers from the dist. i.e $U(0,3)$. ($N$ = large no / no simulations)

ii) For $n = 10, 30, 50$ and 100 (may be 200 also)

Find the values of MLE estimator of $\theta$.

iii) check the dist. of MLE estimator $\hat{\theta}$ of $\theta$, is it BAN?

iv) check unbiasedness and consistency properties of $\hat{\theta}$.