ECE 341 - Homework #12

t-Test with One Population. Due Tuesday, June 10th

Level 10 FlameStrike

1) Let Y be the sum of ten uniform distributions over the range of (0,8). Calculate the probability that Y > 50.

2) Use a normal approximation to determine the probability that Y > 50.

3) Use a Monte-Carlo simulation with 100,000 trials to find the number of times Y > 50

- Repeat the Monte-Carlo simulation five times
- From these five results, determine the 90% confidence interval for the probability that Y > 50.

4) Using Matlab, generate ten values for Y

- Cast ten level-10 Flame Strikes

From the mean and standard devaiation of these Y's, use a t-test to determine the probability that Y > 50.

Bison Poker

Assume a deck of playing cards has

- Six suits (clubs, diamonds, hearts, spades, jackrabbits, and bison)
- 12 values ranging from ace through queen. (no kings)

5) Calculate the odds of being dealt 4-of-a-kind when dealt a 5-card hand.

6) Run seven Monte-Carlo simulations with 100,000 trials to determine the probability of beind dealt 4-of-a-kind.

7) From the Monte-Carlo simulation results, calculate using a t-test the odds of being dealt 4-of-a-kind in Bison Poker.