Statistics Lab, Homework 1

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Project Description Use a random number generator to estimate π. Use a random number generator to generate random points in the square $[-1, 1] \times [-1, 1]$ in the Euclidean plane. Counting the proportion of those points which are distance at most 1 from the origin can be used to estimate the value of π. Use this method to estimate π using $10,000$ and $1,000,000$ randomly generated points.

Details: There are two ways you can do this. The first is generate all the random points and then go through one-by-one and figure out how far they are from the origin. The second is to generate a point then immediately determine how far it is from the origin. **I am requiring you to use the first method so that you can practice using lists in R**

What you should turn in: The console output in a .txt file after running the script with both numbers of points.