

Lab 7

Stat 427

Fall 2020

Instructions

Complete all questions. To prepare for the randomly collected lab, follow the instructions on the class website to prepare the work for submission. These submission rules will apply to all labs throughout the semester.

Logic and Control

- (1) A basketball player has a long-run success probability of 60% for free throws. Simulate for this player 100 batches of 20 free throws. Create a histogram of the results. How often is the player really hot (15 or more successes out of 20) and how often are they cold (less than 9 successes out of 25)? [Yes, use R to answer :-)]
- (2) The provided table of data are some winning times (in seconds) of the Olympic men's 1500-m race through the years.
 - (a) Input the numbers into the vectors `year` and `times` and create a data frame named `olympic1500m`
 - (b) Create a scatterplot of the data (displays the winning times over the years)
 - (c) Calculate the mean winning times for the years 1900-1968 *and* the mean winning time from 1972-2008.

1900	1904	1936	1948	1960	1968	1972	1976
246.0	241.9	227.8	229.8	218.4	214.9	216.3	216.3
1980	1984	1988	1992	1996	2000	2004	2008
218.4	212.5	16.0	220.1	215.8	212.1	214.2	212.9