adv.stats.mod6.R

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2022-10-04

#A  
#a  
x<- c(8,14,16,10,11)  
mean(x)

## [1] 11.8

#b   
#random sample:   
rsample<- c(14,16)  
  
#c  
mean(rsample)

## [1] 15

sd(rsample)

## [1] 1.414214

#d   
mean(rsample)-mean(x)

## [1] 3.2

sd(rsample)-sd(x)

## [1] -1.77953

#the means differ by 3.2, and the sd differ by 1.77953  
#the sample selected represent the population since   
#the values are similar.   
  
  
#B   
#a  
#Yes the sample portion p is approximately a normal distribution   
np<- 100\*0.95  
np

## [1] 95

#np is greater than 5  
  
#b   
#approximately the smallest value for n would be 5 for which the sampling distribution   
#of p is approx normal.   
  
  
#C  
#We are to make a sample for coin values here using the rbinom function.   
#The rbinom function in R is used to generate a binomial random sample for   
#some n sample size and some p probability of success for each trial.  
  
#for a fair chance for heads or tails, the probability   
#for each trial given is 0.5   
#for a sample of ten values, if we need to know the number of heads,   
#we use the rbinom function to get the value.  
  
headsS<- rbinom(100,10,0.5)  
print(headsS)

## [1] 4 4 6 3 5 7 7 4 6 4 5 6 4 6 5 3 5 6 5 5 5 5 3 9 4 5 6 5 6 2 8 7 4 5 6 6 5  
## [38] 6 5 5 5 6 5 4 2 5 5 3 5 2 5 6 3 5 6 5 5 4 2 6 6 6 5 7 4 7 2 8 6 5 3 3 4 3  
## [75] 6 5 7 6 6 5 5 2 4 5 3 4 6 6 6 4 6 5 6 5 4 5 6 4 3 5