Homework 2 - Intro to R

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1. In R, look at the documentation of the function rbinom, using ?rbinom.
2. Suppose we want to generate 25 pseudo-random values from a binomial distribution with size= 12 and prob= 0.1. Assume that we execute these expressions at the start of an R session with no previous workspace loaded. Which of the following commands is/are suitable for this task? Circle the correct one(s). As with Homework 1, please answer this without using R, then correct your answers using R and explain brie???y what you learned.

I have put an X infront of the ones that I think will work.

`rbinom(25, 10, 0.1)` This one doesn't work because size = 10, not 12.

X `rbinom(size=12, prob=0.1, n=25)` Works!

X `rbinom(25, 12, 0.1)` Works!

X `rbinom(25, prob=0.1, size=12)` Works!

`rbinom(n=12, prob=0.1, size=25)` Doesn't work. n and size are flipped.

`rbinom(size=12, prob=25, n=.1)` Doesn't work. n needs to be ≥ 1.

`rbinom(25, 0.1, 12)` Doesn't work. 12 gets put in as probability, and probability needs to be between 0 and 1. NA's produced.

`rbinom(12, prob=0.1, 25)` Doesn't work. Only 12 variables produced.

`rbinom(25, prob=0.1, 12)` This one does indeed work! I don't really know why I thought it wouldn't. But n = 25, prob = 0.1, and then the 12 gets assigned to size.

3. I learned a lot while running this code. I learned some things about the data set itself. There were also other things that I learned about the R methods used to summarize and understand these data.

a. First, I learned that on average, people want to be about 15 pounds lighter than they are. I also thought that it was notable that the heaviest person interviewed weighed 500 pounds! As far as the coding goes, I saw a great example of why it isn't a good idea to use the `attach()` command. I have been told that in the past, but have never seen an example of it. I would not have expected that command to work that way. I also learned what the `detach()` command does. I had never seen that function before. Although I suppose if I never use `attach()`, I'll never need `detach()`. `head(weight >= 400)` was also a new concept for me. I didn't expect it to return logical vectors, but it makes sense because it is performing a comparison. I tought it would give me the values for weight in the first six rows that were greater than or equal to 400.

b. `BMI = (weight * 0.454)/(height * 0.0254)^2`