Exercise

You wish to perform an experiment of picking a colored ball at random from a bag, noting the color, and putting it back. The bag has 100 balls, of which 45 are Red, 25 are Blue, and 30 are Yellow.

1.What is the probability distribution of this experiment?

Outcome value	Probability	Cumulative probability
Red	0.45	0.45
Blue	0.25	0.7
Yellow	0.3	1

2.Write a rule that would allow you to simulate this experiment with a computer

If the uniform random number p is <0.45 then the outcome is red, else if p<0.7 then the outcome is blue else the outcome is yellow

Exercise

Generate 4 bootstrap samples of 5 samples each, with replacement, from the following set of data:
X = [1 0 -1 2 0]

Possible solutions
[1 0 -1 2 0]
[1 1 1 1 1]
[1 -1 1 2 0]
[-1 1 0 0 0]
…