

<https://classroom.github.com/a/7oMlL6VM>

Assume $X_1, X_2, X_3 \sim \text{Bernoulli}(p = 2/3)$.

1. What is the probability of the sequence 1, 0, 1.
2. Provide R code to approximate the probability of the sequence 1, 0, 1.

Hint: there's many ways to code this up in R. I'd use a for loop, where each iteration samples 3 values from $\text{Bernoulli}(p = 2/3)$ and checks if the length-3 vector is equal to the sequence of interest. If it is, add one to some counter. After the loop, turn your counter into a mean by dividing it by the number of observations (here each sequence is one observation).

```
## code hints:  
## run a for loop from n = 1:N  
?for  
?all
```