Trials with Three Outcomes

In class, we learned about the Bernoulli random variable, which consists of a single trial that has only two possible outcomes: success and failure. We programmed an **R** function that simulated the Bernoulli random variables, where the probability of success p was input by the user.

For this assignment, we will write the user-defined **R** function `bern3.r` that simulates a random variable consists of a single trial with *three* possible outcomes. The probabilities of the three outcomes will be input by the user, with p_1 equal to the probability that the result of the random experiment is 0, with p_2 equal to the probability that the result of the random experiment is 1, and with $1 - p_1 - p_2$ equal to the probability that the result of the random experiment is 2.

Here are several examples. If you use the `set.seed(0)` command before you run your function, you should get exactly the same results that I do.

```
> set.seed(0)
> bern3(1/2,1/4)
[1] 2
> bern3(1/2,1/4)
[1] 0
> bern3(1/2,1/4)
[1] 0
> bern3(1/2,1/4)
[1] 1
> bern3(1/2,1/4)
[1] 2
> bern3(1/2,1/4)
[1] 0
> bern3(1/2,1/4)
[1] 2
```