Drawing Red and Blue Marbles from an Urn

The purpose of this exercise is to write the user-defined **R** function `marbles.m` that simulates drawing marbles from an urn containing red and blue marbles.

For example, suppose you are given an urn with 10 red and 5 blue marbles in it, and you draw 6 marbles at random without replacement. Then, on the first draw, you can draw either a red marble or a blue marble. Suppose you draw a red marble on the first draw. There are now 9 red marbles and 5 blue marbles in the urn, and you have drawn a total of 1 red marble. Suppose you draw a blue marble on the second draw. There are now 9 red marbles and 4 blue marbles in the urn, and you still have drawn 1 red marble. Continue this for 6 draws.

Your function should return the number of red marbles drawn.

This is very similar to the binomial random variable function that you wrote in that you can consider the draw of a red marble as a success. However, it is different from the binomial random variable function in that the probability of success changes with each draw. For instance, in the example above, the probability that you draw a red marble on the first draw is $\frac{10}{15}$, but if your first draw is a red marble, the probability of drawing a red marble on the second draw is now $\frac{9}{14}$. If your second draw is a blue marble, the probability of drawing a red marble on the third draw is now $\frac{9}{13}$. Etc.

The inputs will be the number of red marbles, the number of blue marbles, and the number of draws. In that order. You will need to use **R**'s `runif` function, a "for" loop, an "if" statement, and an "else" statement.

- Your function should give an error message if the user inputs a number of draws that exceeds the total number of marbles in the urn. In this case, return NA.
- Your function should return the number of red marbles drawn.

Here are several examples.

```
> set.seed(1)
> marbles(10,5,6)
[1] 4
> marbles(10,10,3)
[1] 0
> marbles(10,0,5)
[1] 5
> marbles(0,10,5)
[1] 0
> marbles(2,2,5)
Error, number of draws must be less than or equal to the total number of marbles.
[1] NA
```