Online on xv6 - System Call

Section: A1   Time: 25 minutes

Our favourite os xv6 doesn't have any built-in pseudo-random number generator. In this online, you will add a simple mechanism for generating random numbers and returning them in bulk.

Formally add 2 **system calls**.

1. setSeed(int seed)   : sets the seed for a pseudo-random number generator.
2. getRandomNumbers(int n)   : returns the next **n** random number and updates the internal state.
   Note that you need to return a pointer of an object containing n random numbers. This is very similar to **Task 2**. Merely calling getRandomNumbers n times will not do. You can safely assume **n < 15**.

For ease of implementation, we will use a simple getRandomNumber() where calling it will increase the seed by 1 and return it.

You also need to add 2 user commands.
1. seed s
2. next n

See the sample I/O for clarification:

```
$ seed 2
The seed has been set to 2
$ next 2
Next random numbers are [3, 4]
$ next 3
Next random numbers are [5, 6, 7]
$ seed 12
The seed has been set to 12
$ next 1
Next random numbers are [13]
$ next 4
Next random numbers are [14, 15, 16, 17]
```

Submission:

```
git add --all
git diff HEAD > ../{studentID}.patch
```