Online on xv6 - System Call

Section: A2/B2   Time: 30 minutes

Our favourite OS xv6 doesn't have built-in support for counting character frequencies in strings. In this online, you will add a system call to count the frequency of each character in a user-provided string and return the result as an array.

Formally add 1 system call.
1. `countFreq(char *str, struct freq_array *a)`: receives a null-terminated string from user space, counts the frequency of all characters (ASCII 0–127), and fills up passed the "`struct freq_array`" containing counts for each character.
   The structure is defined as follows:

   ```
   struct freq_array {
        int counts[128];  // frequency counts for ASCII chars 0 to 127
   };
   ```
You also need to add 1 user commands.
1. freqall someString

See the sample I/O for clarification (exclude colored parts):

```
$ freqall banana
Target string banana (kernel space)
a: 3  (user space)
b: 1
n: 2
$ freqall HelloWorld
Target string HelloWorld (kernel space)
H: 1  (user space)
W: 1
d: 1
e: 1
l: 3
o: 2
r: 1
```

```
You may safely assume that the supplied string will contain only a-z and A-Z.
```

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