

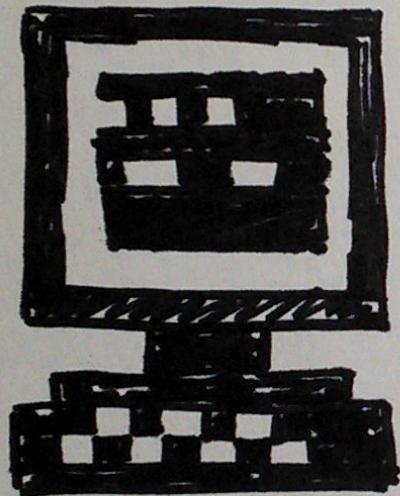
# fun with debugging

..."

## programming experiments

# the Recurse Center

New York!  
12 weeks!  
free!  
♡ ♡



the best  
programming  
community  
in the world

[recurse.com](http://recurse.com)

~~Frontend  
Backend~~

~~Machine  
Learning~~

~~Using a  
database~~

~~JS~~

What's hard?

+

scary

~~Java~~

~~Web dev~~

~~Python~~

~~any new  
language~~

OPERATING

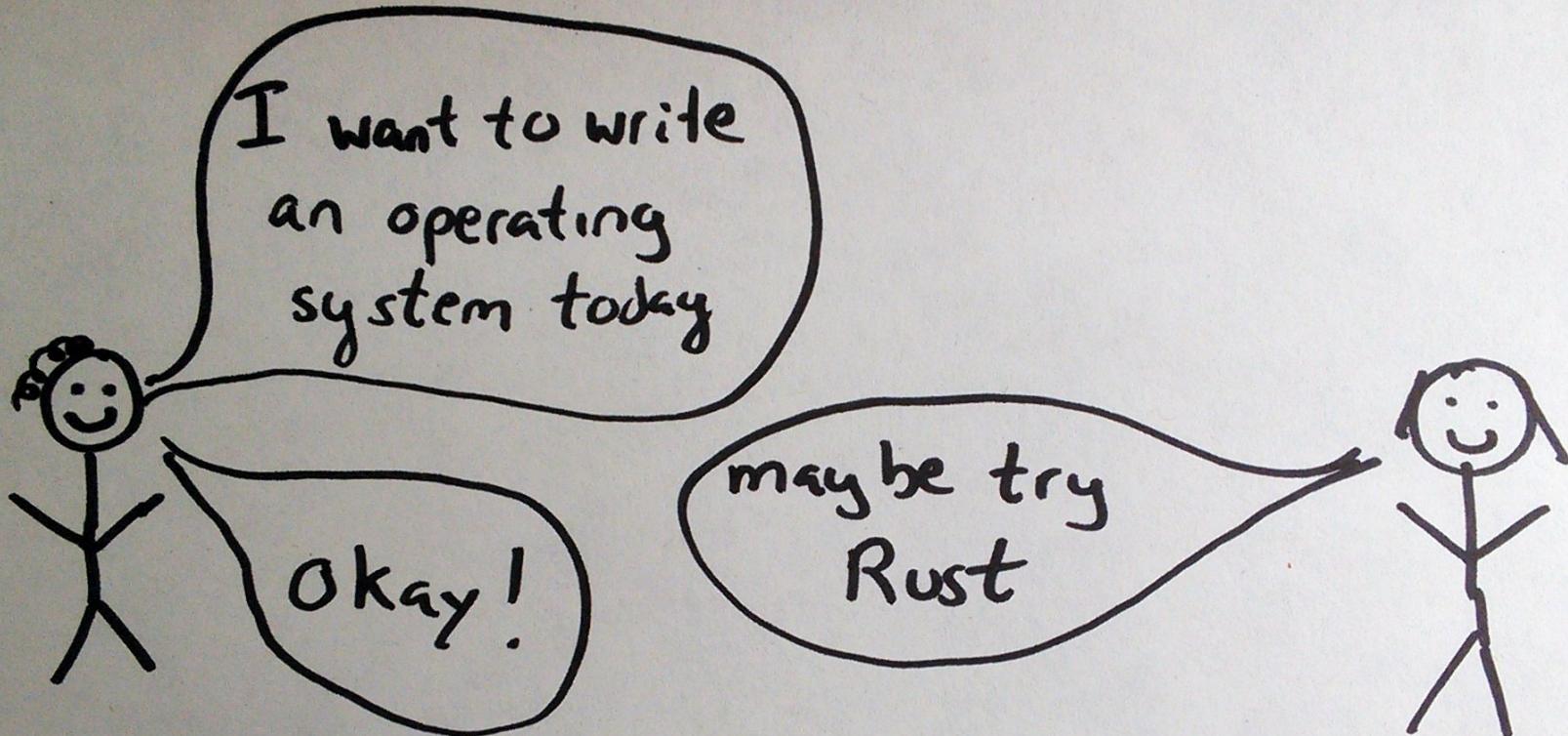
SYSTEMS

yay

amaze

!!

wow



me

Lindsey  
kuper

Friday night at the  
Recurse Center

Rust lets you write  
your own

- malloc
  - threads
  - I/O
- etc  
etc



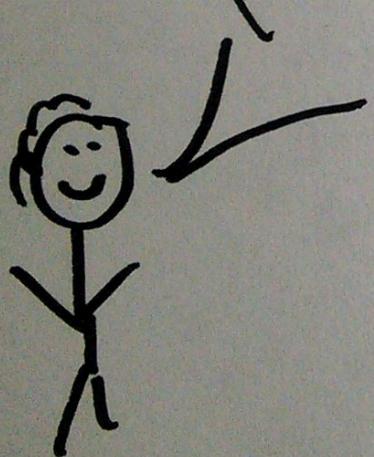
~~"freestanding mode"~~  
libcore

things you do not have when  
you write a kernel

- \* a hard drive
- \* files
- \* other processes
- \* a working keyboard
- \* memory protection
- \* any I/O
- \* libraries to use
- \* ANYTHING !!

"I'm just going to write  
a keyboard driver "

dramatic reading of  
"After 5 days, my OS doesn't  
crash when I press a key"



remember how we don't

have malloc? !! ! !

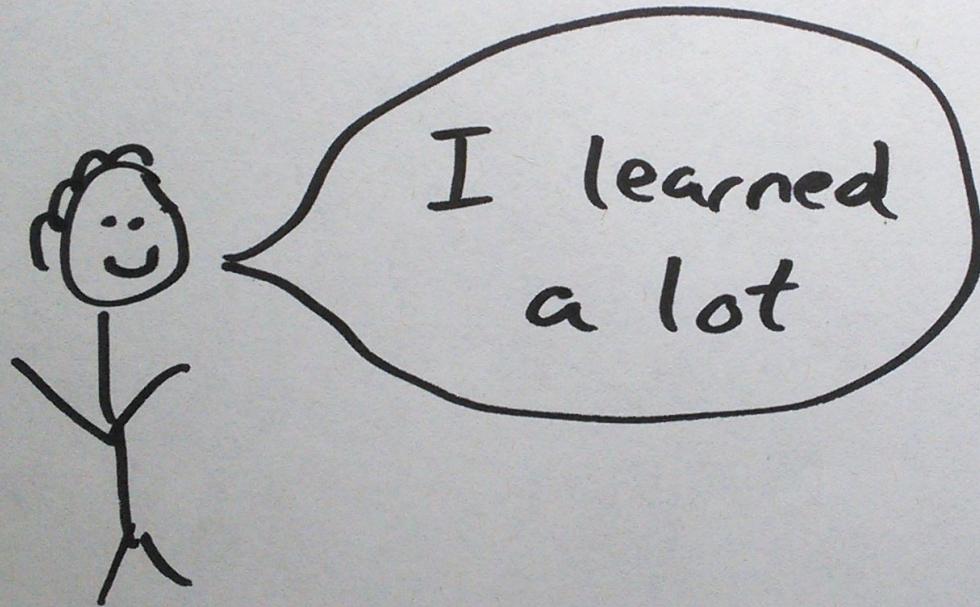
```
fn malloc(size: i32) {  
    return 42;  
}
```

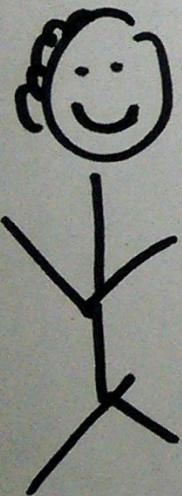
now we have our weird malloc

let  $x = \text{Box}::\text{new}(5)$   $\hookleftarrow^{x=5}$

let  $y = \text{Box}::\text{new}(88)$ ,  
now  
 $x = 88$  //

after 3 weeks





I'm trying to  
write a kernel  
and I have no  
idea what I'm  
doing also how  
do Rust strings  
work. help.

we can help!

#rust



basically writing  
a toy kernel is

REALLY FUN

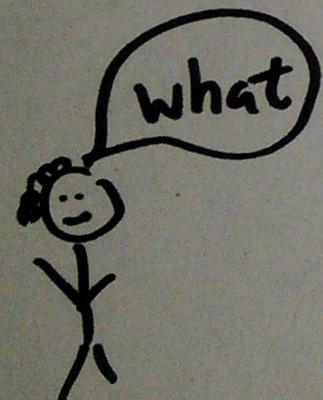
I learned SO MUCH.

In fact...

from: -@apple.com  
to: julia@jvns.ca  
subject: Opportunity with Apple

Hi,

I manage the Kernel Performance  
team at Apple...



**WHAT'S HARD?  
DATABASES!**

and now I'm a  
better programmer !! !! !!



← programmer  
crown