

Mini-Project 0 Due: 1/14/19

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Project Description

- Install an Ubuntu virtual machine.
- Download xv6 from Canvas and transfer it to the virtual machine.
- Modify the `ls` command to print "Hello".

'rename later'

- Modify Makefile in `xv6/` to include `qemu-system-i386`.

```
# If the makefile can't find QEMU, specify its path here
QEMU:=qemu-system-i386
```

- Make a copy of `ls.c` in `xv6/user` with name `hello.c`.

```
brandon@DESKTOP-8MRVG7H:~/OSConcepts/xv6/user$ cp ls.c hello.c
brandon@DESKTOP-8MRVG7H:~/OSConcepts/xv6/user$ ls
cat.c      forktest.o  kill.c      ls.o        printf.o    spin.d      ulib.d      usertests.d  zombie.c
cat.d      grep.c      kill.d      makefile.mk rm.c        stressfs.c  umalloc.c   usertests.o  zombie.d
cat.o      grep.d      kill.o      mkdir.c     rm.d        stressfs.o  umalloc.d   usys.S       zombie.o
echo.c     grep.o      ln.c        mkdir.d     rm.o        tester.c    umalloc.o   usys.o
echo.d     hello.c     ln.d        mkdir.o     sh.c        tester.d    usage.d     wc.c
echo.o     init.c     ln.o        printf.c    sh.d        tester.o    user.h      wc.d
forktest.c init.d      ls.c        printf.d    sh.o        ulib.c      usertests.c wc.o
```

- Delete majority of the contents of `hello.c`, leaving include statements and main function.
- Modify main function to print "Hello".

```
#include "types.h"
#include "user.h"

int main()
{
    printf(1, "Hello \n");
    exit();
}
```

- Update the `makefile.mk` file to include `hello` as a command.

```
# user programs
USER_PROGS := \
    cat\
    echo\
    forktest\
    grep\
    init\
    kill\
    ln\
    ls\
    mkdir\
    rm\
    sh\
    stressfs\
    tester\
    usertests\
    wc\
    zombie\
    hello
```

- Compile and start xv6 with `make qemu-nox`.
- Verify execution of hello command.

```
xv6...
lapicinit: 1 0xf0000000
cpu1: starting
cpu0: starting
init: starting sh
$ hello
Hello
$
```