

Exercise 1.

Created Files –

- 1) drawtest.c : Written a C program which prints the image of the wolf on the console if the size of buffer is greater than size of the image, or else print an error message.
It also includes user, types and stat header files.

Edited Files –

- 1) sysproc.c : Implemented a function **int sys_draw(void)**.
This function returns negative value (-1) if buffer is too small. If the function call succeeds then it returns the number of bytes copied to the buffer.
- 2) syscall.h : Defined the position of the system call vector that is connected to our implementation.
- 3) syscall.c : Function **extern int sys_draw(void)** was implemented. This is visible to whole program. It connects
the shell and the kernel.
System call function was added to the system call vector at the position defined in syscall.h
- 4) user.h : System call which copies the ASCII image of a wolf picture was added.
int draw(void *buf, unit size) included in the header file

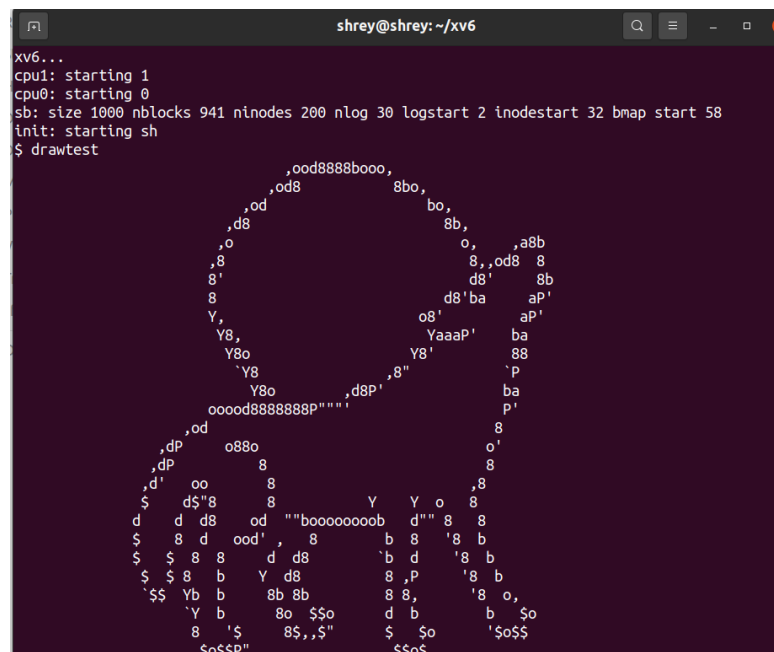
Exercise 2.

- 1) Makefile was edited such that our program drawtest.c is available for xv6 source code for compilation.
We just added _drawtest\ in the UPROGS (User Programs) section in the file.
- 2) After editing the Makefile, the make command needs to be executed so that our newly added program and other changes are compiled and incorporated in xv6.

For this, the following commands need to be executed

```
make clean  
make  
make qemu
```

- 3) After xv6 is started, run drawtest



```
shrey@shrey: ~/xv6  
xv6...  
cpu1: starting 1  
cpu0: starting 0  
sb: size 1000 nblocks 941 ninodes 200 nlog 30 logstart 2 inodestart 32 bmap start 58  
init: starting sh  
$ drawtest  
      ,oo8888b0oo,  
    ,od8      8bo,  
  ,od      ,bo,  
 ,d8      ,8b,  
 ,o      o, ,a8b  
 ,8      8,,od8 8  
 8'      d8' 8b  
 8      d8'ba aP'  
 Y,      o8'  aP'  
 Y8,      YaaaP' ba  
 Y8o      Y8' 88  
 Y8o      ,8" 'P  
 Y8o      ,d8P' ba  
 oood888888P"""" P'  
 ,od      o88o 8  
 ,dP      oo 8  
 ,d'      d$"8 8  
 $      d d8 od ""booooooob d"" 8  
 $      8 d ood' , 8 b 8 '8 b  
 $ $ 8 8 d d8 'b d '8 b  
 $ $ 8 b Y d8 8 ,P '8 b  
 $$ Yb b 8b 8b 8 8, '8 o,  
 'Y b 8o $$o d b b $o  
 8 '$ 8$,,$" $ $o '$o$  
 $o$P" $o$
```