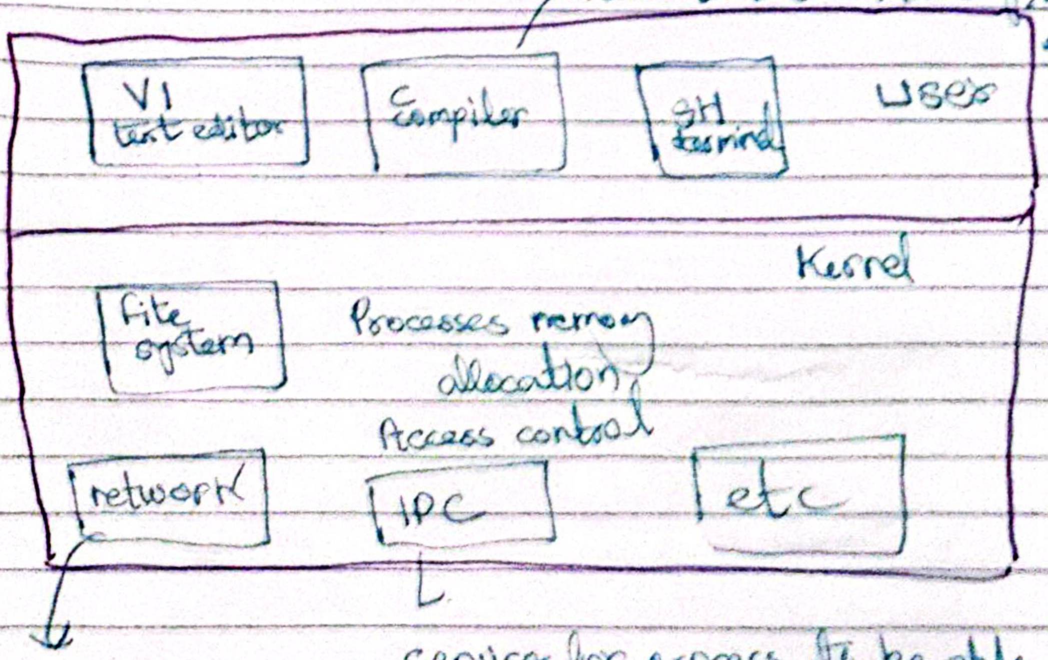
Penned by the half blood prince.

OS Introduction.

- OS purposes

abstraction of hardware
multiplex the hardware
Isolation, so different activities do not interfere.
allow sharing when user wants it.
Security
performance
Range of uses

each of these running programs have their own memory running on each process.



TCP

service for process to be able to talk to each other
inter communication protocol

System calls

There is an Api for the Kernel.

```
open file = open("out", 1)
write(fd, "Hello", 6) -> no of bytes.
pid = fork();
```

python calls → eventually makes system calls

open
read
fork creates a new child process as a copy of its parent, commonly used exec() to run new programs

— Before fork() — After fork

Parent Process	Parent process	child process
Code	code (shared)	code shared
Data	Data (copied)	Data (copied*)
Heap	Heap (copied)	Heap (copied*)
stack	stack (copied	stack (copied*)

uses copy on write, so actual copy happens only if modified