

## System Calls

Think of a system call as a request by a user for the system.

### Several ‘Basic’ Types

1. Process Control  
Need to halt, normally or via abort
2. File Management (create, move, etc. files)  
Manage files and directories
3. Device Management  
Process might need multiple resources
4. Information Management  
Keep track of up-time and waiting
5. Communications - I want to send a message  
Message passing and shared memory
6. Protections Protect read, allow modification by owner only  
Manipulate protections of resources

## Processes

### States of Processes

**New:** being created

**Running:** being executed

**Waiting:** for some event

**Ready:** waiting to be assigned a processor

**Terminated:** finished executing

We can use these states for a state diagram.

### Process Control Block

A ‘snapshot’ of a process, and where it is in its execution lifecycle.

- State
- Program Counter
- CPU Registers
- CPU Scheduling Info

- Memory Management Info
- Accounting Info
- I/O Status Info

Typically PCB lists are implemented as a queue.