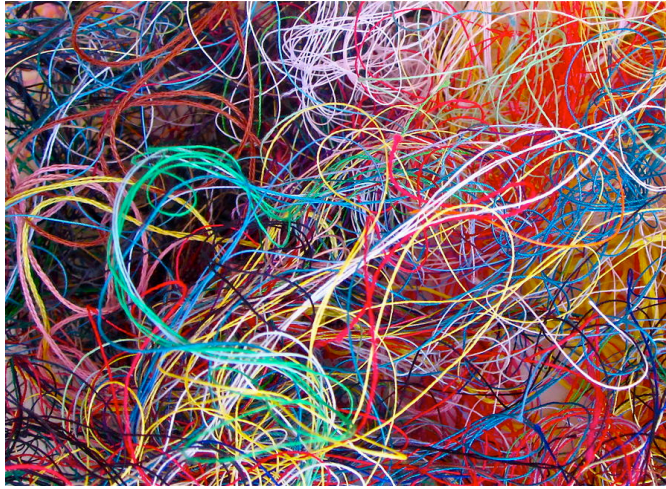
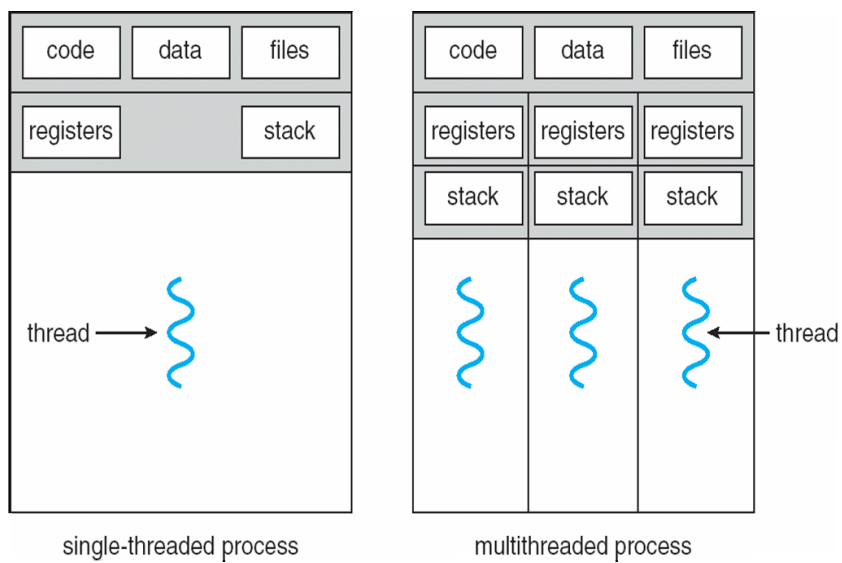


Threads



Multithreaded Processes



Thread APIs

POSIX Threads (Pthreads):

```
pthread_create(&tid, NULL, my_fun, &param); // thread runs my_fun
```

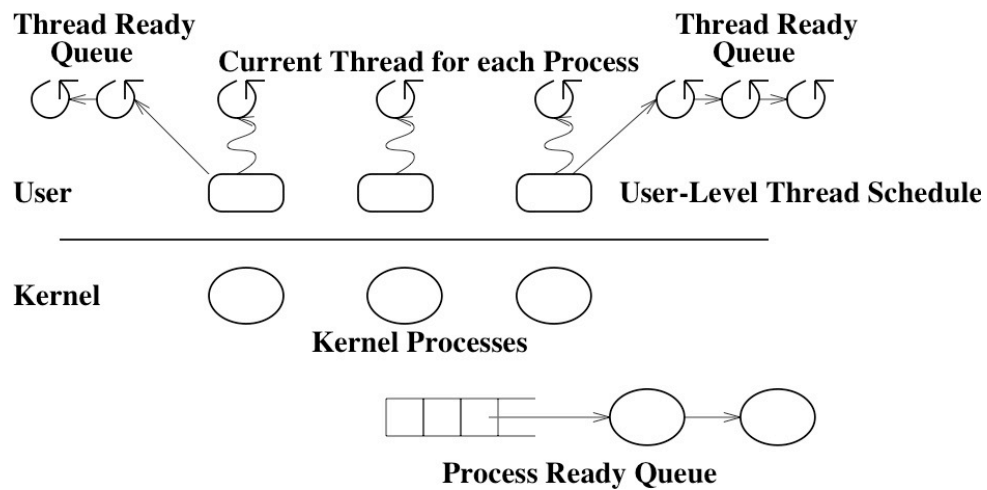
Win32 Threads:

```
ThreadHandle = CreateThread(NULL, 0, MyFun, &Param, 0, &ThreadID);
```

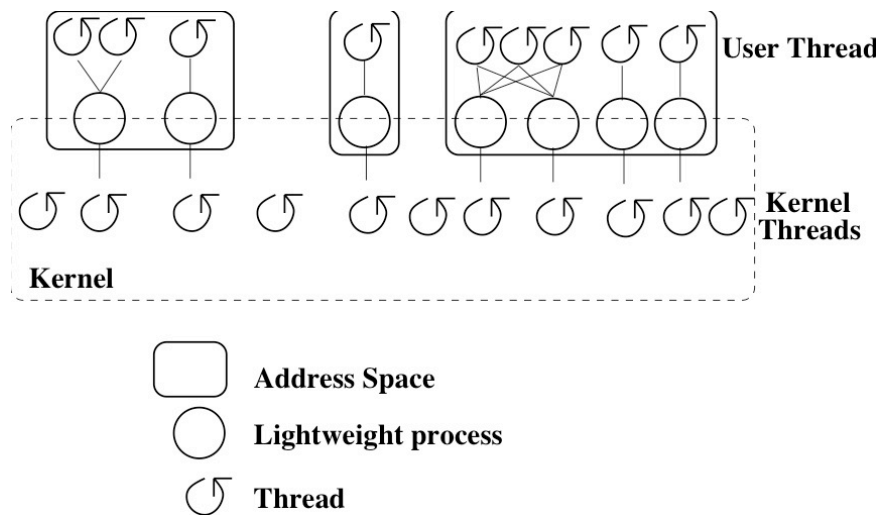
Java Threads:

```
Thread t = new Thread(new MyRunnable(param));  
t.start(); // start the thread running MyRunnable.run()
```

User-Level Threads



Lightweight Processes



Threads Summary

- Threads vs processes
- User-level and kernel-level threads
- Thread interfaces vs implementations