

SOFTENG 370 Tutorial 2

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- C
- Assignment
- pthreads, fork, pipe, mmap
- Sample code available: <https://github.com/timovv/se370-tutorials/tutorial2>

A quick refresher...

- Pointers
- Structs
- Arrays
- Dynamic allocation

Demo: `pointerDemo.c`

- Best information: in the respective man pages (e.g. `man pthread_create`)
- `pthread_create`, `pthread_join`
- Be careful with multiple threads accessing the same resource
- Demo time!

Creating processes

Creating processes

- Create processes with `fork`
- Processes, unlike threads, do not share memory
- Let's take a look

Sharing information

Often we want to share information between processes. There are a couple of simple options you need to know for the assignment:

- Pipes
- Shared memory

Pipes

- It's like a stream of data (flowing through a pipe...)
- Use the `pipe` library call. It will give you two file descriptors, one you can read from, one you can write from.
- Can use to communicate between processes
- Demo

Shared memory

- Memory that can be accessed by multiple processes
- Shared memory areas created using `mmap`
- Let's see

Wrapping up

- Any questions? (about C or assignment)
- Next week's tutorial: assignment Q&A