

# Multi Threading And Multi Processing

- ① Program
- ② Process
- ③ Threads
- ④ Examples of Process And Thread.

① Program  $\rightarrow$  A program is a sequence of Instructions written in programming language [eg: Python, C++]

Eg: Google Chrome  $\rightarrow$  .exe  $\leftarrow$  Program  $\rightarrow$  Browser should work.

Word

Excel

② Process : A process is simply an instance of a program that is being executed

Separate Memory space

\* One process cannot corrupt another process



Eg: Browser

Kernel  $\rightarrow$  process  $\rightarrow$  Id

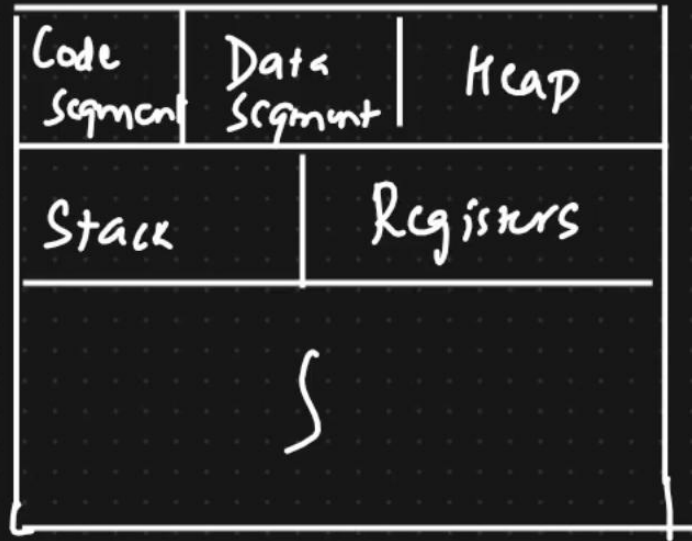
App  $\rightarrow$  Process.

\* I/O Requirements [Resource]

\*  $\rightarrow$  Increased execution time to switch between processes.

③ Thread → A thread is a unit of execution within a process

### Single Threaded Process



### Multi Threaded Process

