Processor cores

**Physical**

**Logical**

**Time Multiplexing**



= Running

= Paused

**Time**

Processes

Threads

Thread Execution

T1

T2

Create

Finished

Main

Read Odom

A **thread** in computer science is short for a *thread of execution*. Threads are a way for a program to divide (termed *"split"*) itself into two or more nearly simultaneously running tasks. Threads and processes differ from one operating system to another but, in general, a thread is contained inside a process and different threads in the same process share same resources while different processes in the same multitasking operating system do not. Threads are lightweight, in terms of the system resources they consume, as compared with processes.

In computing, a **process** is an instance of a computer program that is being sequentially executed by a computer system that has the ability to run several computer programs concurrently.  
A computer program itself is just a passive collection of instructions, while a process is the actual execution of those instructions.

Several processes may be associated with the same program; for example, opening up several windows of the same program often means more than one process is being executed. In the computing world, processes are *formally* defined by the operating systems (OS) running them and so may differ in detail from one OS to another; for example in Microsoft Windows environment each instance of the same application is called a task.