

In this programming exercise you have to work with processes including forking, executing other programs, and waiting for child processes.

In this assignment, you will write a little application to launch another program and measure its CPU runtime.

Basic functionality when user executes your program **mytime**:

1. If no command line arguments are given, the program should print information on how to call the program correctly.
2. When executed with at least one command line argument the first argument should be interpreted as a program name. Your program should then execute this program – as a separate process – and pass all remaining command line arguments as arguments to the executed program.
3. For any executed program its return value and the CPU time of the process in milliseconds should be printed.
4. You must create a *Makefile* such that when someone types **make** in your working directory it will compile the program with an output of **mytime**.

You will need the system commands **fork**, a version of **exec**, **waitpid**, and **clock_gettime** to complete this task. For details on how to use these, you can use UNIX's man pages. There is also an online version at <https://www.kernel.org/doc/man-pages/>.