Catcher

### Due Date: September 26, 2014 @ midnight Submission Subject: “Catcher” ← this is the subject line of your email

## General Submission Criteria:

* See Lab 0 for the General Submission Criteria!
* Make a directory in your repository: lab3
* Include all of your Lab3 work within the lab3 directory

## Overview:

In this lab, you will develop single program that catches signals. When the program catches the signals, it writes particular information onto stdout.

## Executable Names:

**catcher**: a program that catches a number of predefined signals, and prints status information on stdout.

## Makefile Targets:

all: (default)

catcher:

clean:

## Description:

In this software project, you are to write a command-line tool that simply catches signals. The command line arguments define which signal to catch.

* The program processes the command line arguments
  + The arguments indicate which signals to catch
* The program emits a status line that includes its PID to stderr
* The program registers a handler for each argument (see signal(2))
* The program pauses itself continually (see pause(2))
* The handler registers itself again (read about unreliable signals)
* The handler emits a line to stdout that indicates
  + the signal caught, and
  + the time it was caught (see time(2))
* The program gracefully terminates after
  + receiving three successive SIGTERM signals (hint: static int count)
* The program emits a final status message to stderr that indicates
  + the number of signals caught

## Usage Example:

|  |  |
| --- | --- |
| $ catcher TERM USR1 USR2  catcher: $$ = 26843  SIGUSR1 caught at 1411497992  SIGTERM caught at 1411498002  SIGUSR2 caught at 1411498011  SIGTERM caught at 1411498076  SIGTERM caught at 1411499076  SIGTERM caught at 1411499976  catcher: Total signals count = 6  $ | $ kill -USR1 26843  $ kill -TERM 26843  $ kill -USR2 26843  $ kill -TERM 26843  $ kill -TERM 26843  $ kill -TERM 26843 |

|  |  |
| --- | --- |
| $ catcher TERM USR1 USR2 >/dev/null  catcher: $$ = 26843  catcher: Total signals count = 6  $ | $ kill -USR1 26843  $ kill -TERM 26843  $ kill -USR2 26843  $ kill -TERM 26843  $ kill -TERM 26843  $ kill -TERM 26843 |

## See Also:

* man signal
* man 2 kill
* man kill
* man pause