ECE-C353: Systems Programming
Homework Assignment 3: Sending Signals with kill()

Write a program called `signal.c` that performs the functions of the standard UNIX kill command. We will call our program `signal` instead of `kill` so that it is clear we are not calling the built-in or standard kill command included on most systems.

Your program must perform the follow actions:

1. If no command line arguments are provided, it should display the following usage information:

```
$ ./signal
Usage: ./signal [options] <pid>

Options:
   -s <signal>   Sends <signal>  to <pid>
   -l            Lists all signal numbers with their names
```

2. If no specific signal is provided using `-s`, then the `SIGTERM` is sent to the specified pid by default:

```
$ ./signal 1289
```

3. If a specific signal is provided using `-s`, then that signal is sent to the specified pid instead of `SIGTERM`:

```
$ ./signal -s 9 1289
```

4. If the special (non) signal number 0 is specified, report if the specified pid exists and is able to receive signals. For example, assuming pid 1289 exists and is ours, pid 1432 does not exist, and pid 1 (of course) exists and is not ours:

```
$ ./signal -s 0 1289
PID 1289 exists and is able to receive signals

$ ./signal -s 0 1432
PID 1432 does not exist

$ ./signal -s 0 1
PID 1 exists, but we can't send it signals
```

Hint: Refer to the following manual pages for helpful details:

```
$ man 2 kill
$ man 3 errno
```

Deliverables:

You will submit 1 file via BBLearn:

- `abc123_signal.c`

Upload your code (do your own work!) to the BBLearn submission link.

(As always, replace **abc123** with your Drexel ID).