4.1) How do I read characters from a terminal without requiring the user to hit RETURN?

Check out cbreak mode in BSD, `ICANON` mode in SysV.

If you don’t want to tackle setting the terminal parameters yourself (using the "ioctl(2)" system call) you can let the `stty` program do the work - but this is slow and inefficient, and you should change the code to do it right some time:

```c
#include <stdio.h>
main()
{
    int c;
    printf("Hit any character to continue\n");
    /*
    * ioctl() would be better here; only lazy
    * programmers do it this way:
    */
    system("/bin/stty cbreak"); /* or "stty raw" */
    c = getchar();
    system("/bin/stty -cbreak");
    printf("Thank you for typing %c.\n", c);
    exit(0);
}
```

Several people have sent me various more correct solutions to this problem. I’m sorry that I’m not including any of them here, because they really are beyond the scope of this list.

You might like to check out the documentation for the "curses" library of portable screen functions. Often if you’re interested in single-character I/O like this, you’re also interested in doing some sort of screen display control, and the curses library provides various portable routines for both functions.