Programming Projects

1. The `justify` program of Section 15.3 justifies lines by inserting extra spaces between words. The way the `write_line` function currently works, the words closer to the end of a line tend to have slightly wider gaps between them than the words at the beginning. (For example, the words closer to the end might have three spaces between them, while the words closer to the beginning might be separated by only two spaces.) Improve the program by having `write_line` alternate between putting the larger gaps at the end of the line and putting them at the beginning of the line.

2. Modify the `justify` program of Section 15.3 by having the `read_word` function (instead of `main`) store the `*` character at the end of a word that's been truncated.

3. Modify the `qsort.c` program of Section 9.6 so that the `quicksort` and `split` functions are in a separate file named `quicksort.c`. Create a header file named `quicksort.h` that contains prototypes for the two functions and have both `qsort.c` and `quicksort.c` include this file.

4. Modify the `remind.c` program of Section 13.5 so that the `read_line` function is in a separate file named `readline.c`. Create a header file named `readline.h` that contains a prototype for the function and have both `remind.c` and `readline.c` include this file.

5. Modify Programming Project 6 from Chapter 10 so that it has separate `stack.h` and `stack.c` files, as described in Section 15.2.