

```

Day Reminder
5 Saturday class
5 6:00 - Dinner with Marge and Russ
7 10:30 - Dental appointment
12 Saturday class
12 Movie - "Dazed and Confused"
24 Susan's birthday
26 Movie - "Chinatown"

```

The overall strategy isn't very complicated: we'll have the program read a series of day-and-reminder combinations, storing them in order (sorted by day), and then display them. To read the days, we'll use `scanf`; to read the reminders, we'll use the `read_line` function of Section 13.3.

We'll store the strings in a two-dimensional array of characters, with each row of the array containing one string. After the program reads a day and its associated reminder, it will search the array to determine where the day belongs, using `strcmp` to do comparisons. It will then use `strcpy` to move all strings *below* that point down one position. Finally, the program will copy the day into the array and call `strcat` to append the reminder to the day. (The day and the reminder have been kept separate up to this point.)

Of course, there are always a few minor complications. For example, we want the days to be right-justified in a two-character field, so that their ones digits will line up. There are many ways to handle the problem. I've chosen to have the program use `scanf` to read the day into an integer variable, then call `sprintf` to convert the day back into string form. `sprintf` is a library function that's similar to `printf`, except that it writes output into a string. The call

`sprintf` function ► 22.8

```
sprintf(day_str, "%2d", day);
```

writes the value of `day` into `day_str`. Since `sprintf` automatically adds a null character when it's through writing, `day_str` will contain a properly null-terminated string.

Another complication is making sure that the user doesn't enter more than two digits. We'll use the following call of `scanf` for this purpose:

```
scanf("%2d", &day);
```

The number 2 between % and d tells `scanf` to stop reading after two digits, even if the input has more digits.

With those details out of the way, here's the program:

```

remind.c /* Prints a one-month reminder list */

#include <stdio.h>
#include <string.h>

#define MAX_REMIND 50 /* maximum number of reminders */
#define MSG_LEN 60 /* max length of reminder message */

```