

High card

Enter a card: 0

From this description of the program, we see that it has three tasks:

Read a hand of five cards.

Analyze the hand for pairs, straights, and so forth.

Print the classification of the hand.

We'll divide the program into three functions—`read_cards`, `analyze_hand`, and `print_result`—that perform these three tasks. `main` does nothing but call these functions inside an endless loop. The functions will need to share a fairly large amount of information, so we'll have them communicate through external variables. `read_cards` will store information about the hand into several external variables. `analyze_hand` will then examine these variables, storing its findings into other external variables for the benefit of `print_result`.

Based on this preliminary design, we can begin to sketch an outline of the program:

```
/* #include directives go here */

/* #define directives go here */

/* declarations of external variables go here */

/* prototypes */
void read_cards(void);
void analyze_hand(void);
void print_result(void);

/*****
 * main: Calls read_cards, analyze_hand, and print_result *
 *       repeatedly. *
 *****/
int main(void)
{
    for (;;) {
        read_cards();
        analyze_hand();
        print_result();
    }
}

/*****
 * read_cards: Reads the cards into external variables; *
 *             checks for bad cards and duplicate cards. *
 *****/
void read_cards(void)
{
    ...
}
```