

Part C

by Xuyuan Liu

FILE	12055_XUYUAN_LIU_PART_C_173926_198378591.DOCX (111.1K)		
TIME SUBMITTED	28-APR-2019 10:20PM (UTC+0100)	WORD COUNT	277
SUBMISSION ID	105584081	CHARACTER COUNT	1473

Programs in C and documentation
– Part C

Software Development

Programs in C and documentation

By Xuyuan Liu

Part C

1. Identify the problem

This program uses a while loop and an if loop and one function to input the positions. The program first uses the while loop to enter two position numbers. Then use the if loop to determine if the two numbers are equal. If they are equal and the two numbers are not equal to 0, then a match is completed. Assign a value of 0 to both of the arrays. And add 1 to the counter with an initial value of 0. If the counter is less than 6, continue the while loop. Otherwise the program ends.

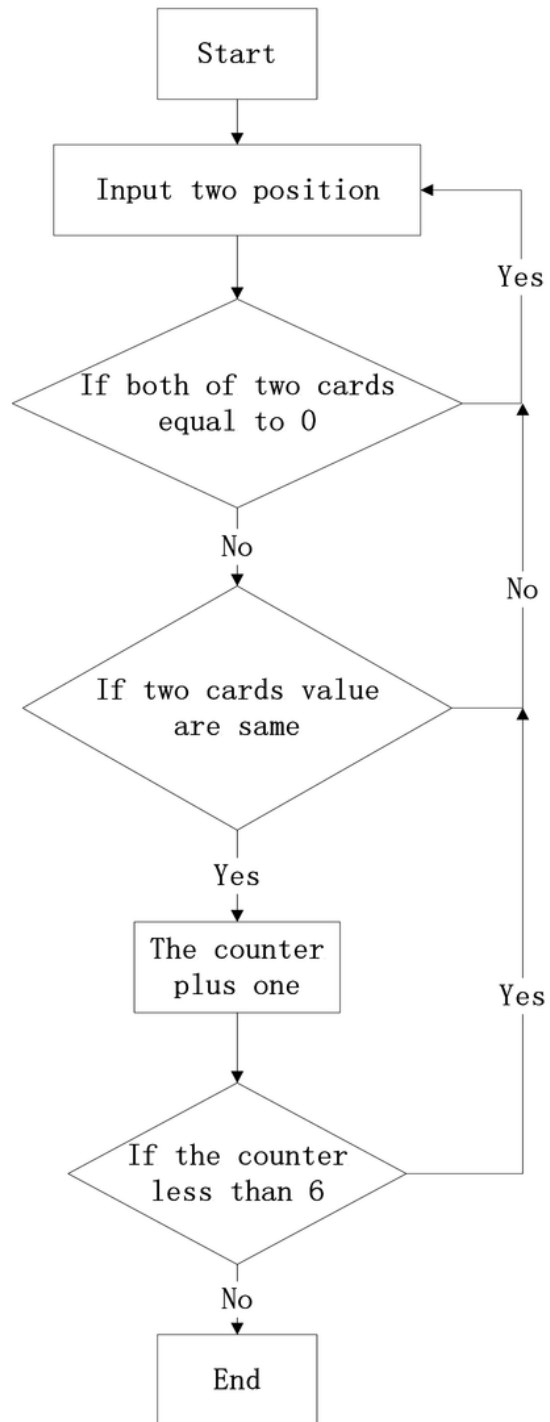


Figure 1. flowchart of Part C

2. Annotated Code

```
#include<stdio.h>

int enterinteger(); //prototype for function

void main()
{
    int pairs[12] = { 6,5,2,3,1,2,4,1,3,4,5,6 }; //input the array
    int card1, card2, matches = 0;

    while (matches < 6) //while loop 6 times
    {
        card1 = enterinteger(); //call the function to input the position
        card2 = enterinteger(); //call the function to input the position

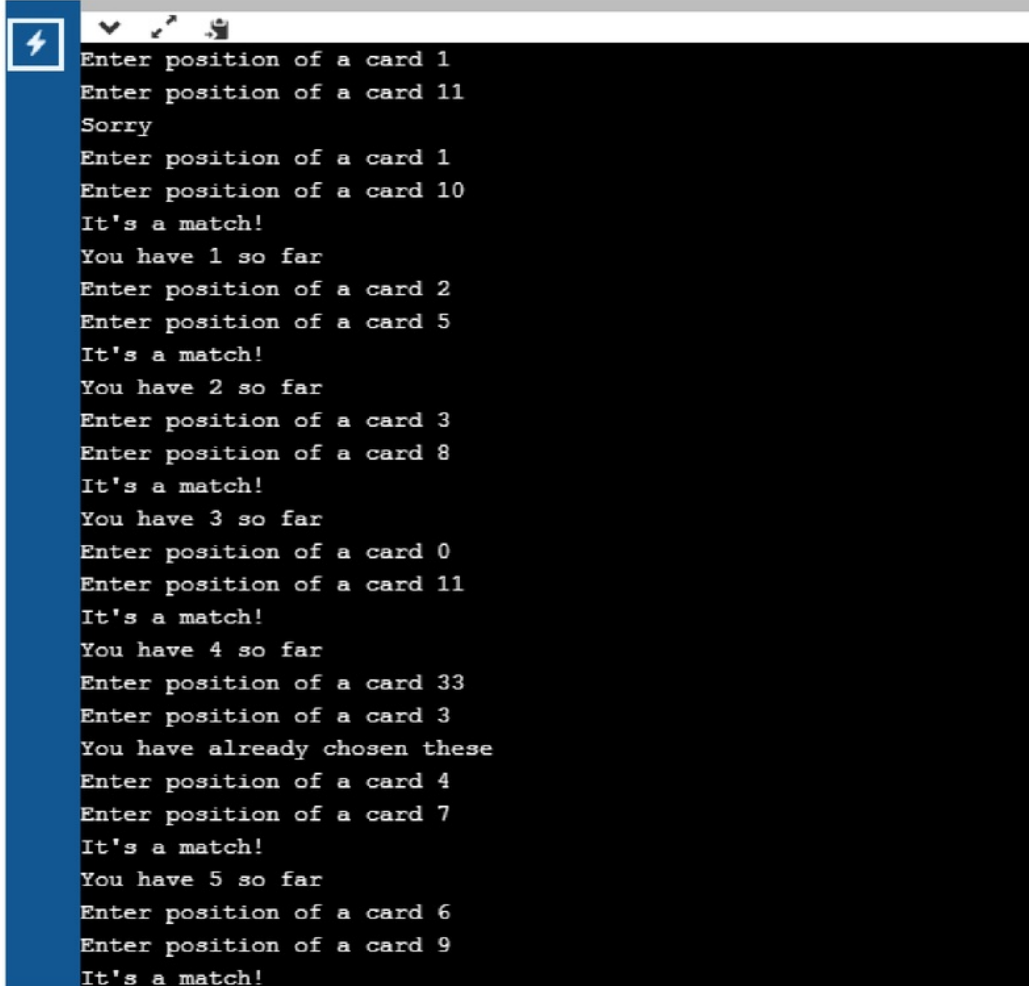
        if (pairs[card1] == 0 || pairs[card2] == 0) //adjust if the position have been chosen
        {
            printf("You have already chosen these\n");
        }

        else if (pairs[card1] == pairs[card2]) //two position is matched
        {
            printf("It's a match!\n");
            pairs[card1] = 0;
            pairs[card2] = 0;
            matches++;
            printf("You have %d so far\n", matches);
        }

        else //not match
        {
            printf("Sorry\n");
        }
    }
}

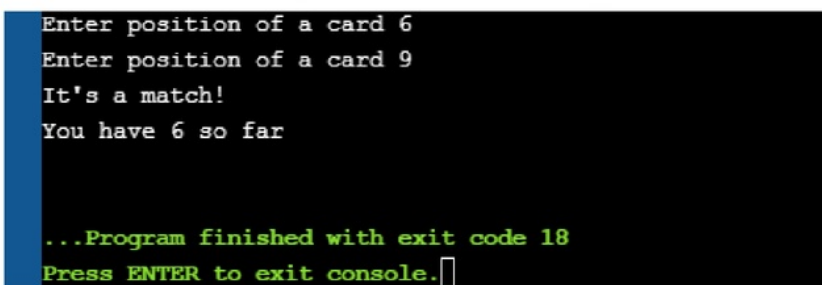
int enterinteger() //user function
{
    int thevalue;
    printf("Enter position of a card ");
    scanf("%d", &thevalue);
    return thevalue;
}
```

3. Testing



```
Enter position of a card 1
Enter position of a card 11
Sorry
Enter position of a card 1
Enter position of a card 10
It's a match!
You have 1 so far
Enter position of a card 2
Enter position of a card 5
It's a match!
You have 2 so far
Enter position of a card 3
Enter position of a card 8
It's a match!
You have 3 so far
Enter position of a card 0
Enter position of a card 11
It's a match!
You have 4 so far
Enter position of a card 33
Enter position of a card 3
You have already chosen these
Enter position of a card 4
Enter position of a card 7
It's a match!
You have 5 so far
Enter position of a card 6
Enter position of a card 9
It's a match!
```

Figure 2. Screenshot of C part



```
Enter position of a card 6
Enter position of a card 9
It's a match!
You have 6 so far

...Program finished with exit code 18
Press ENTER to exit console.
```

Figure 3. End after six times

```
Enter position of a card 2
Enter position of a card 4
Sorry
```

Figure 4. Not matched

```
Enter position of a card 6
Enter position of a card 9
You have already chosen these
```

Figure 5. Same chosen

Part C

GRADEMARK REPORT

FINAL GRADE

/100

GENERAL COMMENTS

Instructor

PART C

Coding/Annotation- A basic game, with some function work, although this could have been more extensive. You have not shuffled the cards, so it's the same game every time. Also, you need to think about validation - the use must be constrained to enter 0-11 for their card choice. They should not enter -1 or 12 for example 10.5/20

Documentation - The flowchart is OK, but needs more detail. Sometimes you don't use the correct shape of box - parallelogram for input for example. Testing shows most eventualities for this program, but you have not tested -1 as an input. 8/15

Total 19/35

Overall total for assignment: 43.5+19

62/100

Test mark 93%

Overall mark for module 71%

PAGE 1

PAGE 2

PAGE 3

PAGE 4

PAGE 5

PAGE 6
