

lab04

```
$ gcc lab04.c
```

```
$ a.out
```

```
Input Roman Numeral: MMXXI
```

```
Integer value: 2021
```

```
$ a.out
```

```
Input Roman Numeral: CMXLIX
```

```
Integer value: 949
```

```
$ a.out
```

```
Input Roman Numeral: DCCCLXXVI
```

```
Integer value: 876
```

score: 98.0

- o. [Output] Program output is correct, good.
- o. [Format] Program format can be improved.

lab04.c

```
1 // EE231004 Lab04. Roman Numerals
2 // 110060007, 黃俊穎
3 // 2021/11/01
4
5 #include <stdio.h>           // I/O library
6
7 int main(void)              // start the main function
8 {
9     char RN = 0;             // variables of Roman_Numerals
10    int sum = 0;              // the final output value
11    int cur;                  // record current value
12    int last = 0;            // former value of current value
13
14    printf("Input Roman Numeral: ");
15
16    while (RN != '\n') {     // keep looping as char doesn't end line
17        scanf("%c", &RN);
18
19        // start giving value of each letter and adding them together
20        // start giving value of each letter and adding them together
21        switch (RN) {
22            case 'I': sum += 1; cur = 1; break;
23            case 'V': sum += 5; cur = 5; break;
24            case 'X': sum += 10; cur = 10; break;
25            case 'L': sum += 50; cur = 50; break;
26            case 'C': sum += 100; cur = 100; break;
27            case 'D': sum += 500; cur = 500; break;
28            case 'M': sum += 1000; cur = 1000;
29        }
30
31        if (last != 0) {     // check last letter
32            if (cur > last) { // decide carry law of Roman_Numerals
33                sum -= 2 * last; // minus extra added value
34                sum -= 2 * last; // minus extra added value
35            }
36        }
37        last = cur;          // change the next comparison condition
38    }
39    printf("Integer value: %d\n", sum); // print out the result
40}
```

```
39     return 0;                // finish the main function
40 }
```