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1 /* EE2310 Lab02. Roman Numerals
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3    Date: 2018.10.01 */
4
5 #include <stdio.h>                // include standard library.
6
7 int main(void)                    // main program starts.
8 {
9     int dec,kilo,hun,ten,digit;    // declare decimal(user input), kilo
10                                     /* (forth digit), hundred(third digit),
11                                     ten(second digit),digit(last digit). */
12     printf("Input an integer between 1 and 3000: "); // prompt.
13     printf("Input an integer between 1 and 3000: "); // prompt. // space
14     scanf("%d", &dec);            // read decimal.
15     if (dec <= 3000 && dec > 0)   // restrict the range.
16     {
17         kilo = dec/1000;           // find out what is the forth digit.
18         kilo = dec / 1000; // space
19         switch(kilo){              // test what is the value of kilo.
20             switch (kilo) {
21                 case 0:             // does nothing.
22                 break;
23                 case 0: // these two lines are not needed
24                 break;
25                 case 1: printf("M"); // print out the roman number.
26                 break;
27                 break; // indentation
28                 case 2: printf("MM"); // print out the roman number.
29                 break;
30                 case 3: printf("MMM"); // print out the roman number.
31                 break;
32                 break; // this break is not needed
33             } // There are only 3 possible forth digit
34
35     hun = ((dec%1000)/100);        // find out what is the third digit.
36     hun = ((dec % 1000) / 100); // space
37     switch(hun){                  // there are 9 possible third digit.
38         case 0:                   // does nothing.
39         break;
40         case 1: printf("C");       // print out the roman number.
41         break;
42         case 2: printf("CC");      // print out the roman number.
43         break;
44         case 3: printf("CCC");     // print out the roman number.

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36     break;
37     case 4: printf("CD");           // print out the roman number.
38     break;
39     case 5: printf("D");           // print out the roman number.
40     break;
41     case 6: printf("DC");         // print out the roman number.
42     break;
43     case 7: printf("DCC");       // print out the roman number.
44     break;
45     case 8: printf("DCCC");      // print out the roman number.
46     break;
47     case 9: printf("CM");       // print out the roman number.
48     break;
49     }
50     ten = ((dec%100)/10);        // find out what is the second digit.
51     switch(ten){                // there are 9 possible second digit.
52     case 0:
53     break;
54     case 1: printf("X");         // print out the roman number.
55     break;
56     case 2: printf("XX");       // print out the roman number.
57     break;
58     case 3: printf("XXX");      // print out the roman number.
59     break;
60     case 4: printf("XL");       // print out the roman number.
61     break;
62     case 5: printf("L");        // print out the roman number.
63     break;
64     case 6: printf("LX");       // print out the roman number.
65     break;
66     case 7: printf("LXX");      // print out the roman number.
67     break;
68     case 8: printf("LXXX");     // print out the roman number.
69     break;
70     case 9: printf("XC");       // print out the roman number.
71     break;
72     }
73     digit = (dec%10);           // find out what is the first digit.
74     switch(digit){             // there are 9 possible first digit.
75     case 0:                     // does nothing.
76     break;
77     case 1: printf("I");        // print out the roman number.
78     break;
79     case 2: printf("II");       // print out the roman number.

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80     break;
81     case 3: printf("III");           // print out the roman number.
82     break;
83     case 4: printf("IV");           // print out the roman number.
84     break;
85     case 5: printf("V");            // print out the roman number.
86     break;
87     case 6: printf("VI");           // print out the roman number.
88     break;
89     case 7: printf("VII");          // print out the roman number.
90     break;
91     case 8: printf("VIII");         // print out the roman number.
92     break;
93     case 9: printf("IX");           // print out the roman number.
94     break;
95     }
96     printf("\n");                   // The assignment assigns a text wrap.
97     printf("\n"); // indentation
98     return 0;                       // main program ends.
99     return 0; // should be out side of the if statement
100 }
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115
// extra blank lines are not needed

```

// Good! Program output is correct.
Score: 85