

Answer on Question #47576- Programming, C++

7. Write a program that accepts an ordinary number and outputs its equivalent Roman numerals. The ordinary numbers and their equivalent Roman numerals are given below:

Ordinary Numbers Roman Numerals

1	I
5	V
10	X
50	L
100	C
500	D
1000	M

Sample input/output dialogue:

Enter a number: 2968

Output: MMCMLXVIII

In Switch Case

Solution.

```
//Connecting library
#include <iostream>
using namespace std;

// Definition of function
const char *Number_AsRomanString( int iNumber );

int main (void)
{
    int arabicalNumeral = 1;
    int result;

    cout<<"Please enter the number: "<<endl;

    // Input
    cin>>result;

    // Display of result
    cout<<endl<<"Output: "<<Number_AsRomanString( result )<<endl;

    // Stop of process
    cin.get();//or system("pause");

    return 0;
}

// Function
const char *Number_AsRomanString( int iNumber )
{
    // Definition of struct
```

```

struct RomanDigit_t
{
    char *m_psString;
    int m_iValue;
};

// Initialization of object struct
static const RomanDigit_t RomanDigits[]=
{
    {"M", 1000},
    {"D", 500},
    {"C", 100},
    {"L", 50},
    {"X", 10},
    {"V", 5},
    {"I", 1},
};

static char sRomanString[20];
sRomanString[0] = '\0';

for (int i=0; iNumber && i<sizeof(RomanDigits)/sizeof(RomanDigits[0]); i++)
{
    switch(i)
    {
        case 0:
        {
            while(RomanDigits[0].m_iValue <= iNumber )
            {
                strcat( sRomanString, RomanDigits[0].m_psString );
                iNumber -= RomanDigits[0].m_iValue;
            }

            while((RomanDigits[0].m_iValue-RomanDigits[2].m_iValue) <=
iNumber )
            {
                strcat( sRomanString, RomanDigits[2].m_psString );
                strcat( sRomanString, RomanDigits[0].m_psString );
                iNumber -= RomanDigits[0].m_iValue-
RomanDigits[2].m_iValue;
            }
            break;
        }

        case 1:
        {
            while(RomanDigits[1].m_iValue <= iNumber )
            {
                strcat( sRomanString, RomanDigits[1].m_psString );
                iNumber -= RomanDigits[1].m_iValue;
            }

            while((RomanDigits[1].m_iValue-RomanDigits[2].m_iValue) <=
iNumber )
            {
                strcat( sRomanString, RomanDigits[2].m_psString );
                strcat( sRomanString, RomanDigits[1].m_psString );
                iNumber -= RomanDigits[1].m_iValue-
RomanDigits[2].m_iValue;
            }
            break;
        }
    }
}

```

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case 2:
{
    while(RomanDigits[2].m_iValue <= iNumber )
    {
        strcat( sRomanString, RomanDigits[2].m_psString );
        iNumber -= RomanDigits[2].m_iValue;
    }

    while((RomanDigits[2].m_iValue-RomanDigits[4].m_iValue) <=
iNumber )
    {
        strcat( sRomanString, RomanDigits[4].m_psString );
        strcat( sRomanString, RomanDigits[2].m_psString );
        iNumber -= RomanDigits[2].m_iValue-
RomanDigits[4].m_iValue;
    }
    break;
}

case 3:
{
    while(RomanDigits[3].m_iValue <= iNumber )
    {
        strcat( sRomanString, RomanDigits[3].m_psString );
        iNumber -= RomanDigits[3].m_iValue;
    }

    while((RomanDigits[3].m_iValue-RomanDigits[4].m_iValue) <=
iNumber )
    {
        strcat( sRomanString, RomanDigits[4].m_psString );
        strcat( sRomanString, RomanDigits[3].m_psString );
        iNumber -= RomanDigits[3].m_iValue-
RomanDigits[4].m_iValue;
    }
    break;
}

case 4:
{
    while(RomanDigits[4].m_iValue <= iNumber )
    {
        strcat( sRomanString, RomanDigits[4].m_psString );
        iNumber -= RomanDigits[4].m_iValue;
    }

    while((RomanDigits[4].m_iValue-RomanDigits[6].m_iValue) <=
iNumber )
    {
        strcat( sRomanString, RomanDigits[6].m_psString );
        strcat( sRomanString, RomanDigits[4].m_psString );
        iNumber -= RomanDigits[4].m_iValue-
RomanDigits[6].m_iValue;
    }
    break;
}

case 5:
{
    while(RomanDigits[5].m_iValue <= iNumber )
    {
        strcat( sRomanString, RomanDigits[5].m_psString );
        iNumber -= RomanDigits[5].m_iValue;
    }
}

```

```

        while((RomanDigits[5].m_iValue-RomanDigits[6].m_iValue) <=
iNumber )
        {
            strcat( sRomanString, RomanDigits[6].m_psString );
            strcat( sRomanString, RomanDigits[5].m_psString );
            iNumber -= RomanDigits[5].m_iValue-
RomanDigits[6].m_iValue;
        }
        break;
    }

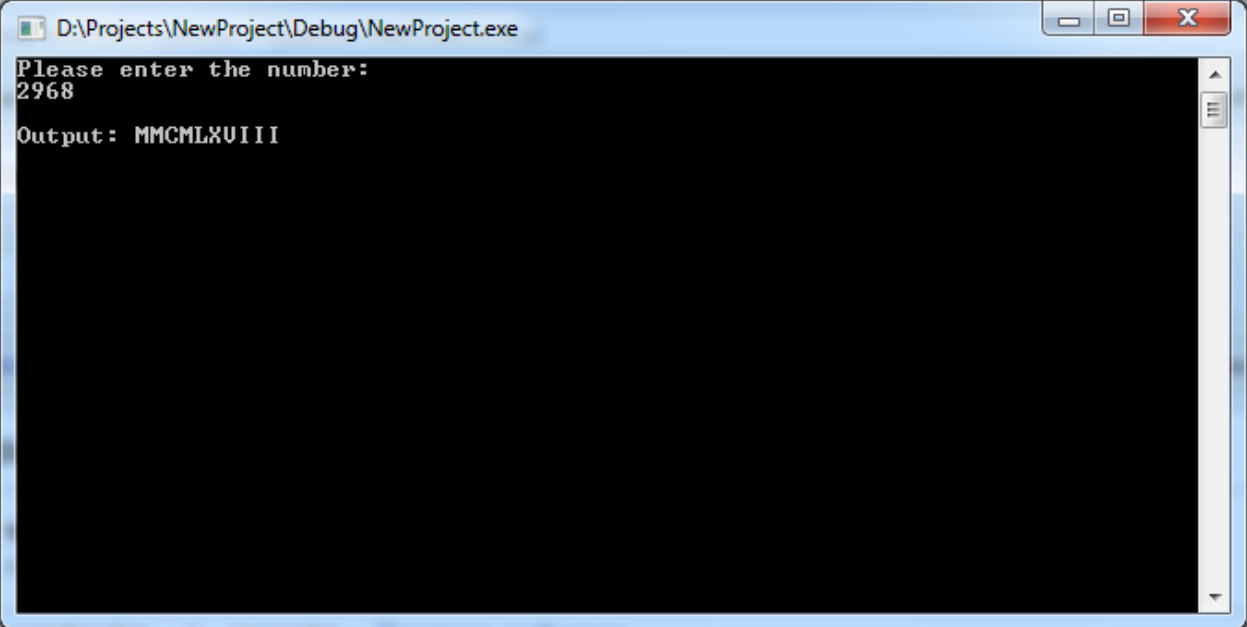
    case 6:
    {
        while(RomanDigits[6].m_iValue <= iNumber )
        {
            strcat( sRomanString, RomanDigits[6].m_psString );
            iNumber -= RomanDigits[6].m_iValue;
        }
        break;
    }

    default:
    {
        break;
    }
}

}

return sRomanString;
}

```



```

D:\Projects\NewProject\Debug\NewProject.exe
Please enter the number:
2968
Output: MMCMLXVIII

```