

```
// RomanNum.cpp - CONVERT ROMAN NUMERAL TO DECIMAL
//
// MODULE INDEX
// NAME          CONTENTS
// main         Main line
//
// MAINTENANCE HISTORY
// DATE         PROGRAMMER AND DETAILS
// 29-09-16 MPF Original
//
//-----
```

```
#include <iostream>    // C++ I/O stream declaration
using namespace std;
```

```
//-----
```

```
int
Convert (
    const char *p)    // Pointer to numeral
{
    int    value;      // Value
    int    currTerm;   // Value of current term
    int    prevTerm;   // Value of previous term
    int    charVal;    // Value of character
    char    ch;        // Current character
    bool    first;     // First term
```

```
    first = 1;
    value = 0;
    prevTerm = 0;
    while (*p != '\\0') {
        ch = *p;
        switch (ch) {
            case 'I':
                charVal = 1;
                break;
            case 'V':
                charVal = 5;
                break;
            case 'X':
                charVal = 10;
                break;
            case 'L':
                charVal = 50;
                break;
            case 'C':
                charVal = 100;
                break;
            case 'E':
                charVal = 250;
                break;
            case 'D':
                charVal = 500;
                break;
            case 'M':
                charVal = 1000;
                break;
        }
    }
}
```

```
        break;
    default:
        cerr << "bad char: " << ch << '\n';
        charVal = 0;
    }
    for (currTerm = 0; *p == ch; p++)
        currTerm += charVal;
    if (first) {
        first = 0;
        prevTerm = currTerm;
    } else if (prevTerm >= currTerm) {
        value += prevTerm;
        prevTerm = currTerm;
    } else {
        value += currTerm - prevTerm;
        first = 1;
    }
}
if (! first)
    value += prevTerm;

return value;
}

//-----

// MAIN LINE

int
main ()
{
    char        buf[512];    // Formatting buffer

    cin.getline (buf, sizeof(buf));
    printf ("%d\n", Convert(buf));

    return 0;
}
```