A Micro Project Report

on

Problem Solving using C Language

Submitted by

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

NARASARAOPETA ENGINEERING COLLEGE: NARASARAOPET

(AUTONOMOUS)

Accredited by NAAC with A+ Grade and NBA under Tier-1

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2024-2025

NARASARAOPETA ENGINEERING COLLEGE: NARASARAOPET

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CERTIFICATE

This is to certify that Shaik Nayab Shameem , Roll No: 23471A05EO, a Second Year Student of the Department of Computer Science and Engineering, has completed the Micro Project Satisfactorily in "Problem Solving using C Language" for the Academic Year 2024-2025..

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NUMBERS TO ROMAN NUMBERS

AIM:

Write a C Program to Convert Numbers to Roman Numerals.

SOURCE CODE:

```
#include <stdio.h>
void roman(int num);
int main()
{
   int num;
   printf("enter a number:");
   scanf("%d",&num);
   roman(num);
   return 0;
}
void roman(int num)
{
   struct
   {
      int value;
      char *symbol;
   }roman[]={{1000,"M"},{900,"CM"},{500,"D"},{400,"CD"},{100,"C"},{90,"XC"},
   {50,"L"},{40,"XL"},{10,"X"},{9,"IX"},{5,"V"},{4,"IV"},{1,"I"}};
   if(num==0)
   {
```

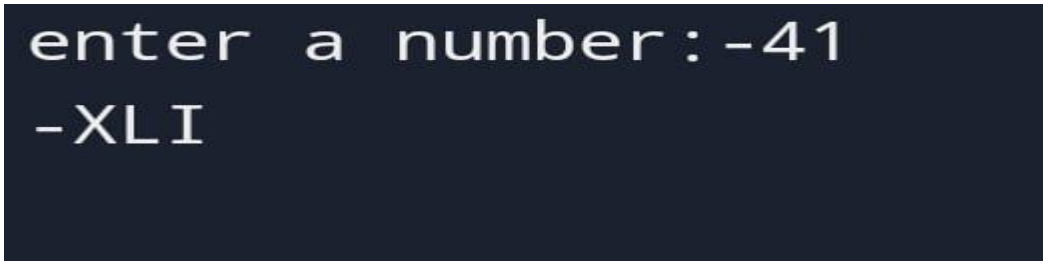
```
            printf(“%d”,num);
    }
else
{
 if(num<0)
   {
      printf("-");
       num=0-num;
   }
   for(int i=0;i<13;i++)
   {
    while(num>=roman[i].value)
      {
          printf("%s",roman[i].symbol);
         num=num-roman[i].value;
      }
   }
   printf("\n");
  }
}
```

INPUT:

enter a number: -41

OUTPUT:

-XLI



ROMAN NUMBER TO DECIMAL NUMBER

AIM:

Write a C Program to Convert Roman Number to Decimal Number

SOURCE CODE

```
#include<stdio.h>
#include<string.h>
int digit(char);
 int main()
{
  char roman_Number[1000];
    int i=0;
    long int number =0;
    printf("Enter any roman number (Valid digits are I, V, X, L, C, D, M):  \n");
    scanf("%s",roman_Number);
 while(roman_Number[i])
  {
   if(digit(roman_Number[i]) < 0)
      {
           printf("Invalid roman digit : %c",roman_Number[i]);
           return 0;
      }

       if((strlen(roman_Number) -i) > 2)
{
           if(digit(roman_Number[i]) < digit(roman_Number[i+2]))
```

```
 {
          printf("Invalid roman number");
             return 0;
  }
}
 if(digit(roman_Number[i]) >= digit(roman_Number[i+1]))
          number = number + digit(roman_Number[i]);
  else
   {
          number = number + (digit(roman_Number[i+1]) -
             digit(roman_Number[i]));
          i++;
    }
       i++;
  }
    printf("Its decimal value is : %ld",number);
     return 0;
 }
int digit(char c)
{
  int value=0;
 switch(c)
     {
       case 'I': value = 1; break;
       case 'V': value = 5; break;
       case 'X': value = 10; break;
```

```
        case 'L': value = 50; break;
        case 'C': value = 100; break;
        case 'D': value = 500; break;
        case 'M': value = 1000; break;
        case '\0': value = 0; break;
        default: value = -1;
    }

   return value;
}
```

INPUT:

Enter any roman number (Valid digits are I, V, X, L, C, D, M):

LIV

OUTPUT:

Its decimal value is : 54

```
Enter any roman number (Valid digits are I, V, X, L,
    C, D, M):
LIV
Its decimal value is : 54
```

DISPLAY THE CURRENCY IN WORDS

AIM:

Write a C program to display the currency in words

SOURCE CODE:

```
#include<stdio.h>

int main()

{

int n,c=0,rem;

char one[100][100]={"
","one","two","three","four","five","six","seven","eight","nine","ten","eleven",
"twelve","thirteen","forteen","fifteen","sixteen","seventeen","eighteen","ninet
een"};

char tens[100][100]={" ","
","twenty","thirty","forty","fifty","sixty","seventy","eighty","ninty"};

char thou[100][100]={" ","thousand"};

printf("enter the number:");

scanf("%d",&n);

if(n<=0)

printf("enter invalid digit is zero");

if(n>0)

{

     rem=n%100000;

if(rem!=0 )

   {

  if(rem>=10000)

{

      printf(" give number less than 10000");
```

```
}
else
 {
  if(rem>=1000)
     {
      printf("%s thousand",one[rem/1000]);
      rem=rem%1000;
     }
 if(rem>=100)
     {
         printf("%s hundred",one[rem/100]);
         rem=rem%100;
     }
if(rem>=20)
     {
         printf("%s ",tens[rem/10]);
         rem=rem%10;
     }
if(rem>0 && rem<=10)
     {
         printf("%s ",one[rem]);
     }
 }
     n=n/100000;
```

```
      c++;
   }
}
return 0;
}
```

INPUT:

enter the number : 7856

OUTPUT:

Seven thousandeight hundredfifty six