

ASSIGNMENT-1

DATE:-11/112020

1. Write a C program to convert original number into Roman number.

Ex: 512 ---> DXII

PROGRAM

```
#include <stdio.h>
int main ()
{
    int num;
    printf("Name: PATNANA ARUNA KUMARI\n");
    printf("ID NUMBER: S170354\n");
    printf("Enter your input:");
    scanf("%d", &num);
    printf("Roman Number: ");
    while (num>0)
    {
        if (num>=1000)
        {
            printf("M");
            num= num-1000;
        }
        else if (num>=500)
        {
            if (num>=900)
            {
                printf("CM");
                num=num-900;
            }
            else
            {
                printf("D");
                num=num-500;
            }
        }
        else if (num>=100)
        {
            if (num>=400)
            {
                printf("CD");
                num=num-400;
            }
        }
    }
}
```

```

    }
    else
    {
        printf("C");
        num=num-100;
    }
}
else if(num>=50)
{
    if (num>=90)
    {
        printf("XC");
        num=num-90;
    }
    else
    {
        printf("L");
        num=num- 50;
    }
}
else if(num>=9)
{
    if (num>=40)
    {
        printf("XL");
        num=num-40;
    }
    else if(num==9)
    {
        printf("IX");
        num=num-9;
    }
    else
    {
        printf("X");
        num=num-10;
    }
}
else if(num>=4)
{
    if (num>=5)
    {
        printf("V");
        num=num-5;
    }
}

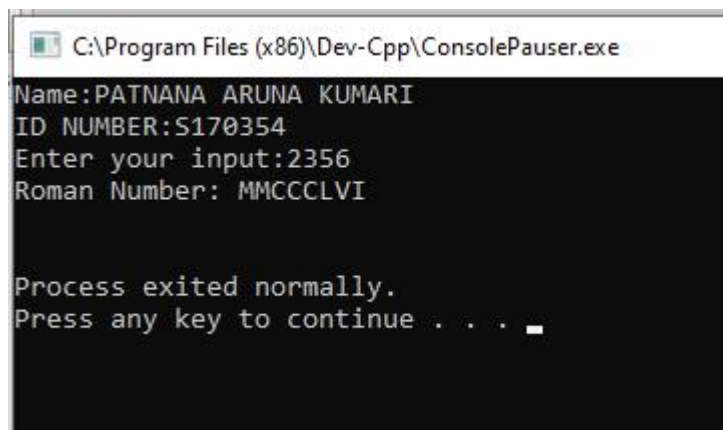
```

```

        }
    else
    {
        printf("IV");
        num=num-4;
    }
}
else
{
    printf("I");
    num=num-1;
}
}
printf("\n");
}

```

OUTPUT:-



The screenshot shows a console window titled "C:\Program Files (x86)\Dev-Cpp\ConsolePauser.exe". The output text is as follows:

```

Name: PATNANA ARUNA KUMARI
ID NUMBER: S170354
Enter your input: 2356
Roman Number: MMCCCLVI

Process exited normally.
Press any key to continue . . .

```

2. Write a C program to convert Roman number into Original number.

Ex: DXII---> 512

Program:-

```

#include<stdio.h>
#include<conio.h>
#include<string.h>

int decimal(char);

int main()
{
    printf("Name: PATNANA ARUNA KUMARI\n");
}

```

```

printf("ID NUMBER:S170354\n");
char roman_num[1000];
int i=0;
long int num=0;
printf("\nEnter a roman number :  \n");
scanf("%s",roman_num);
while(roman_num[i])
{
    if(decimal(roman_num[i])<0)
    {
        printf("Invalid roman digit : %c",roman_num[i]);
    }
    if((strlen(roman_num) -i) > 2)
    {
        if(decimal(roman_num[i])<decimal(roman_num[i+2]))
        {
            printf("Invalid roman number");
        }
    }
    if(decimal(roman_num[i])>=decimal(roman_num[i+1]))
        num=num+decimal(roman_num[i]);
else
    {
        num=num+(decimal(roman_num[i+1])-decimal(roman_num[i]));
        i++;
    }
    i++;
}
    printf("Its decimal value is : %ld",num);
    getch();
}

int decimal(char ch)
{
    int value=0;

    switch(ch)
    {

        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;

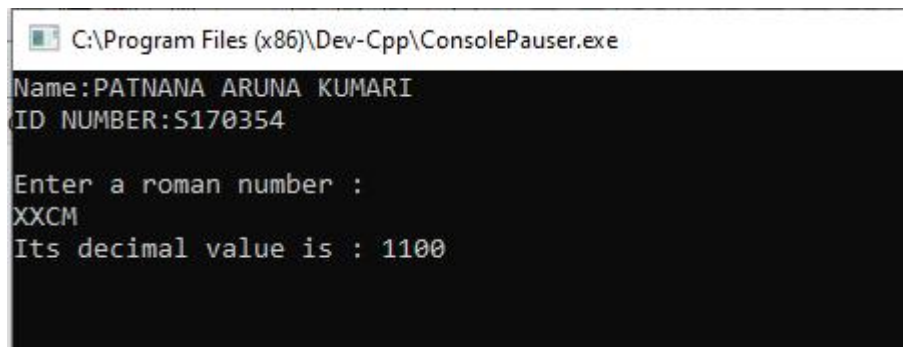
        case 'M': value = 1000;
        break;

        case '\0': value = 0;
        break;

        default: value = -1;
    }
    return value;
}

```

OUTPUT:-



```

C:\Program Files (x86)\Dev-Cpp\ConsolePauser.exe
Name: PATNANA ARUNA KUMARI
ID NUMBER: S170354

Enter a roman number :
XXCM
Its decimal value is : 1100

```

3. Write a C program to convert original number into String format (In words).

Ex: 512---> Five One Two

120---> One Two Zero

Program:-

```

#include<stdio.h>
#include<stdlib.h>
int main()

```

```

{
    printf("Name: PATNANA ARUNA KUMARI\n");
    printf("ID NUMBER: S170354\n");
    long int n, sum=0, r;
    printf("enter the number=");
    scanf("%ld", &n);
    while(n>0)
    {
        r=n%10;
        sum=sum*10+r;
        n=n/10;
    }
    n=sum;
    while(n>0)
    {
        r=n%10;
        switch(r)
        {
            case 1:
                printf("one ");
                break;
            case 2:
                printf("two ");
                break;
            case 3:
                printf("three ");
                break;
            case 4:
                printf("four ");
                break;
            case 5:
                printf("five ");
                break;
            case 6:
                printf("six ");
                break;
            case 7:
                printf("seven ");
                break;
            case 8:
                printf("eight ");
                break;
            case 9:
                printf("nine ");

```

```

break;
case 0:
printf("zero ");
break;
default:
printf("tttt");
break;
}
n=n/10;
}
return 0;
}

```

OUTPUT:-

```

C:\Program Files (x86)\Dev-Cpp\ConsolePauser.exe
Name: PATNANA ARUNA KUMARI
ID NUMBER: S170354
enter the number=5678
five six seven eight

Process exited normally.
Press any key to continue . . . .

```

4. Write a C program to convert Original number into String format (Speech).

Ex: 512--->Five hundred and Twelve
121---> One hundred and Twenty
5535--->Five thousand Five hundred and Thirty Five.

Program:-

```

#include<stdlib.h>
#include<stdio.h>

int main()
{
    long num, div, n1;
    int flag, digit, pos, tot_dig;
    printf("Name: PATNANA ARUNA KUMARI\n");
    printf("ID NUMBER: S170354\n");
    printf("\nEnter a number: ");
    scanf("%ld", &num);
}

```

```

if(num == 0)
{
printf("Zeron\n");
exit(0);
}

if(num > 99999)
{
printf("please enter a number between 0 and 100000\n\n");
exit(0);
}

tot_dig = 0;
div = 1;
n1 = num;

while ( n1 > 9 )
{
n1 = n1 / 10;
div = div * 10;
tot_dig++;
}
tot_dig++;
pos = tot_dig;
while ( num != 0 )
{
digit = num / div;
num = num % div;
div = div / 10;
switch(pos)
{
case 2:
case 5:
if ( digit == 1 )
flag = 1;
else
{
flag = 0;
switch(digit)
{
case 2: printf("twenty ");break;
case 3: printf("thirty ");break;
case 4: printf("forty ");break;
case 5: printf("fifty ");break;

```



```

        case 6: printf("sixty ");break;
        case 7: printf("seventy ");break;
        case 8: printf("eighty ");break;
        case 9: printf("ninty ");
    }

}

    break;
        case 1:
        case 4:
    if (flag == 1)
    {
        flag = 0;
switch(digit)
    {
        case 0 : printf("ten ");break;
        case 1 : printf("eleven ");break;
        case 2 : printf("twelve ");break;
        case 3 : printf("thirteen ");break;
        case 4 : printf("fourteen ");break;
        case 5 : printf("fifteen ");break;
        case 6 : printf("sixteen ");break;
        case 7 : printf("seventeen ");break;
        case 8 : printf("eighteen ");break;
        case 9 : printf("nineteen ");

    }
}
else
{
    switch(digit)
    {
        case 1 : printf("one ");break;
        case 2 : printf("two ");break;
        case 3 : printf("three ");break;
        case 4 : printf("four ");break;
        case 5 : printf("five ");break;
        case 6 : printf("six ");break;
        case 7 : printf("seven ");break;
        case 8 : printf("eight ");break;
        case 9 : printf("nine ");

    }

}

if (pos == 4)

```

```

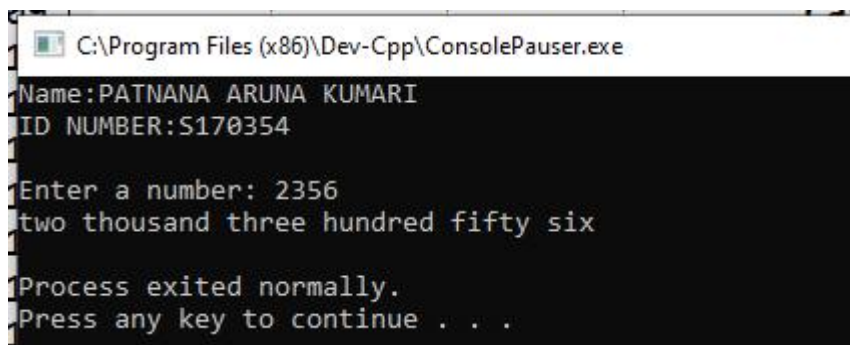
        printf("thousand ");
break;
    case 3:
        if (digit > 0)
        {
            switch(digit)
            {
                case 1 : printf("one ");break;
                case 2 : printf("two ");break;
                case 3 : printf("three ");break;
                case 4 : printf("four ");break;
                case 5 : printf("five ");break;
                case 6 : printf("six ");break;
                case 7 : printf("seven ");break;
                case 8 : printf("eight ");break;
                case 9 : printf("nine ");
            }
            printf("hundred ");
        }
        break;
    }
    pos--;
}

if (pos == 4 && flag == 0)
    printf("thousand");
else if (pos == 4 && flag == 1)
    printf("ten thousand");

if (pos == 1 && flag == 1)
    printf("ten ");
}

```

OUTPUT:-



```

C:\Program Files (x86)\Dev-Cpp\ConsolePauser.exe
Name: PATNANA ARUNA KUMARI
ID NUMBER: S170354
Enter a number: 2356
two thousand three hundred fifty six
Process exited normally.
Press any key to continue . . .

```