# 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)**

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**NARASARAOPETA ENGINEERING COLLEGE: NARASARAOPET**

**(AUTONOMOUS)**

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**



**CERTIFICATE**

**This is to certify that Shiak.Gousia parveen, Roll No: 23471A05EY, 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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**Asst. Professor Professor**

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| To convert decimal to octal and hexadecimal. |

Aim:

C program to convert decimal to octal and hexadecimal number.

Source code:

#include<stdio.h>

#include<conio.h>

int end,j,x,a[20];

void octal(int x)

{

int i=0;

while(x>0)

{

a[i]=x%8;

i++;

x=x/8;

}

end=i;

printf("the octal number is:");

for(j=end;j>=0;j--)

{

printf("%d ",a[j]);

}

}

void hecxa(int y)

{

printf("hexadecimal number is:%X",y);

}

void main()

{

octal(4324);

hecxa(500);

}

output:

the octal number is:10344

hexadecimal number is:1F4

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| c program to delete number in given position in Array |
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**Aim:**

c program to delete number in given position in Array

**source code:**

#include<stdio.h>

#include<conio.h>

int main()

{

int a[10],i,p,j=0,n;

clrscr();

printf("enter no of elements in array:");

scanf("%d",&n);

printf("enter the elements:");

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

printf("Enter a position where do you want to delete a number in array\n");

scanf("%d",&p);

while(j<p-1)

{

j++;

}

a[j]=a[j+1];

printf("after deleting the element:");

for(j=0;j<n-1;j++)

{

printf("%d ",a[j]);

}

return 0;

}

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| **output:**  enter no of elements in array:6  enter the elements:  1  2  3  4  10  18  enter a position where do you want to delete a number in array  5  after deleting the element:  1 2 3 4 18 |

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| To convert the decimal number to roman numerals |

**Aim:**

Write a c program to convert the decimal number to roman numerals

**Source code:**

#include<stdio.h>

int main()

{

int num;

printf("Enter a number: ");

scanf("%d", &num);

printf("Roman numerals: ");

**while**(num != 0)

{

**if** (num >= 1000)

{

printf("M");

num = num-1000;

}

**else** **if** (num >= 900)

{

printf("CM");

num = num-900;

}

**else** **if** (num >= 500)

{

printf("D");

num =num- 500;

}

**else** **if** (num >= 400)

{

printf("CD");

num = num-400;

}

**else** **if** (num >= 100)

{

printf("C");

num = num-100;

}

**else** **if** (num >= 90)

{

printf("XC");

num =num- 90;

}

**else** **if** (num >= 50)

{

printf("L");

num = num-50;

}

**else** **if** (num >= 40)

{

printf("XL");

num =num- 40;

}

**else** **if** (num >= 10)

{

printf("X");

num =num- 10;

}

**else** **if** (num >= 9)

{

printf("IX");

num =num- 9;

}

**else** **if** (num >= 5)

{

printf("V");

num =num- 5;

}

**else** **if** (num >= 4)

{

printf("IV");

num =num- 4;

}

**else** **if** (num >= 1)

{

printf("I");

num = num-1;

}

}

**return** 0;

}

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| --- |
| **Output:**  Enter a number: 55  Roman numerals:LV |

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| **C program to convert Roman numbers to decimal number** |

**Aim:**

C program to convert Roman numbers to decimal number

**Source code:**

#include<stdio.h>

#include<string.h>

#include<conio.h>

int digit(char);

int main()

{

char roman\_number[1000];

int i=0;

long int number=0;

clrscr();

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])>=digit(roman\_number[i+1]))

{

number=number+digit(roman\_number[i]);

}

else

{

number=number+digit(roman\_number[i+1])-digit(roman\_number[i]);

}

i++;

}

printf("its decimal value is :%ld",number);

return 0;

}

int digit(char c)

{

int value;

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;

}

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| **output:**  enter any roman number valid digits are I,V,X,L,C,D,M  XXX  its decimal value is:30  enter any roman number valid digits are I,V,X,L,C,D,M  IC  its decimal value is:99 |

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| Match sticks game |

Aim:

write a program for a match stick game being played between the computer and user.

Your program should ensure that the computer always wins.Rules for the game are as follows:

-there are 21 match sticks.

-the computer asks the player to pick 1,2,3,4 matchsticks.

-after the person picks,the computer does its picking.

-whoever is forced to pickup the last matchstick loses the game.

Source code:

#include<stdio.h>

int main()

{

int m=21,c,human;

while(m>1)

{

printf("number of match sticks are:%d\n",m);

printf(" enter the human choice in the range of 1 to 4:\n");

scanf("%d",&human);

if(human==0 && human>4)

{

printf("please enter a valid choice");

}

c=5-human;

printf("the computer choice is %d\n",c);

m=m-human-c;

if(m==1)

{

printf("THE NUMBER OF MATCH STICKS ARE %d\n",m);

printf("you lost the game");

}

}

return 0;

}

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| **Output:**  number of match sticks are:21  enter the human choice in the range of 1 to 4:  2  the computer choice is 3  number of match sticks are:16  enter the human choice in the range of 1 to 4:  3 | | |
| the computer choice is 2  number of match sticks are:11  enter the human choice in the range of 1 to 4:  4  the computer choice is 1  number of match sticks are:6  enter the human choice in the range of 1 to 4:  2  the computer choice is 3  THE NUMBER OF MATCH STICKS ARE 1  you lost the game |