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

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CERTIFICATE

This is to certify that **Hema Sesham**, **Roll No: 23471A0591**, 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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Replace elements in a square matrix

AIM:

Program in to read square matrix of order n, find average of elements and then replace each element by 1 if it is greater than average otherwise replace by 0

```
#include<stdio.h>

int main(){
    int n;
    printf("Enter the order of the square matrix (n): ");
    scanf("%d", &n);
     int matrix[n][n];
    int i, j;
    double sum = 0.0, average;
    printf("Enter the elements of the matrix:\n");
    for (i = 0; i < n; i++) {
        for (j = 0; j< n;j++) {
            printf("Element [%d][%d]: ", i, j);
            scanf("%d", &matrix[i][j]);
            sum += matrix[i][j];
        }
    }
    average = sum / (n * n);
    for (i = 0; i < n; i++) {
        for (j = 0; j < n;j++) {
            if (matrix[i][j] > average) {
                matrix[i][j] = 1;
            } else {
                matrix[i][j] = 0;
            }
        }
```

```
    }
    printf("Modified matrix:\n");
    for(i=0;i<n;i++){
        for(j=0;j<n;j++){
            printf("%d",matrix[i][j]);
        }
        printf("\n");
    }

    return 0;
}
```

Inout:

enter the order of the square matrix (n):2

enter the elements of the matrix:

enter [0][0]:6

enter [0][1]:3

enter [1][0]:8

enter [1][1]:7

output:

Modified matrix:

0 0

1 1

```
Enter the order of the square ma
trix (n): 2
Enter the elements of the matrix
:
Element [0][0]: 3
Element [0][1]: 6
Element [1][0]: 2
Element [1][1]: 9
Modified matrix:
0 1
0 1
```

Digit number in Words

Aim:

C program to Read a number and displayits digit in words

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

  int main()
{
      int number,rem,reverse=0;
      clrscr();
     printf("enter number");
    scanf(%d",&number);
   while(number!=0)
    {
            rem = number%10;
            reverse = reverse * 10 + rem;
            number = number/10;
}
while(reverse != 0)
{
            rem = reverse%10;

            switch(rem)
            {
                  case 0: printf("Zero "); break;
                  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;
```

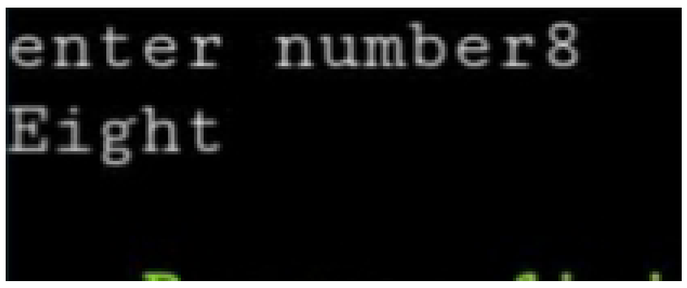
```
                }

                reverse = reverse/10;
        }
        getch();
        return(0);
}
```

inout:

enter number:8

output:

eight



N prime numbers

Aim:

C program to Generate First N prime numbers Where N is Given by User

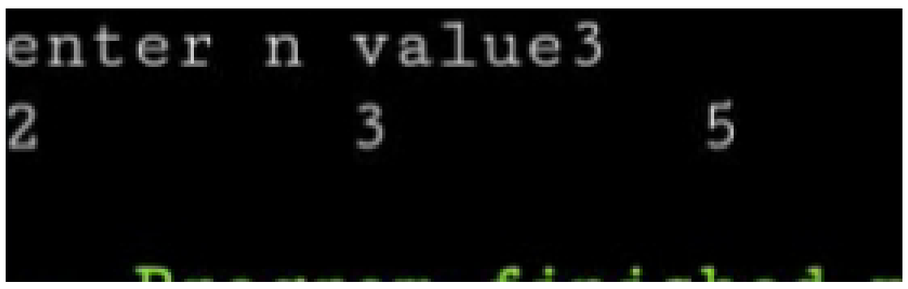
```
#include<stdio.h>
int main()
 {
    int N,x=2,i;
   printf("enter n value");
  scanf("%d",&N);
 while(N)
 {
    for(i=2;i<x;i++)
     if(x%i==0)
  {
     break;
    }
     if(i==x)
    {
       printf("%d \t",x);
       N–;
    }
     x++;
  }
   return 0;
}
```

inout:

enter N value6

output:

2 3 5 7 11 13



String palindrome

Aim:

C program to Check String Palindrome With out using string handling functions

```
#include<stdio.h>
int main()
 {
    char string[40];
    int length=0, flag=1,i;
    printf("Enter string:\n");
    scanf("%s",&string);
  for(i=0;string[i]!='\0';i++)
  {
     length++;
    }
   for(i=0;i<length/2;i++)
  {
    if( string[i] != string[length-1-i] )
   {
      flag=0;
    break;
   }
  }
 if(flag==1)
 {
  printf("string is a PALINDROME");
 }
 else
 {
  printf("string is NOT A PALINDROME");
 }
 return 0;
}
```

inout:

Enter string

level

output:

level is a PALINDROME

```
Enter string:
madam
string is a PALINDROME
```