**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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**2024-20****25**

**NARASARAOPETA ENGINEERING COLLEGE: NARASARAOPET**

**(AUTONOMOUS)**

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**



**CERTIFICATE**

**This is to certify that Ravulapati Sree Sahithi, Roll No: 23471A05CT, 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.**

Project Co-Ordinator HEAD OF THE DEPARTMENT

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**Asst. Professor Professor**

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| **S.NO** | **Description** |
|  | C Program to perform addition, subtraction and multiplication of two polynomial equations. |

**Mathematical Operations on Polynomial Equations**

**AIM:**

**Write a C program to perform addition,subtraction and multiplication of two polynomial equations.**

#include<stdio.h>

int main()

{

int n1 ,n2,n3;

int coeff1[10] , coeff2[10],result[20];

int i,j;

printf("Enter degree of first polynomial:");

scanf("%d",&n1);

printf("Enter coefficients of first polynomial:\n");

for(i=n1;i>=0;i--)

{

scanf("%d",&coeff1[i]);

}

printf("Enter degree of second polynomial:");

scanf("%d",&n2);

printf("Enter coefficients of second polynomial:\n");

for(i=n2;i>=0;i--)

{

scanf("%d",&coeff2[i]);

}

printf("Addition\n");

n3=(n1>n2)? n1:n2;

for(i=0;i<=n3;i++)

{

result[i]=(i<=n1) ? coeff1[i] : 0;

result[i]+=(i<=n2) ? coeff2[i] : 0;

}

printf("Result:");

for(i=n3;i>=0;i--)

{

if(result[i]!=0)

{

if(i!=0)

{

printf("%dx^%d+",result[i],i);

}

if(i==0)

printf("%d",result[i]);

}

}

printf("\n");

printf("Subtraction\n");

n3=(n1>n2) ? n1:n2;

for(i=0;i<=n3;i++)

{

result[i]=(i<=n1) ? coeff1[i] : 0;

result[i]-=(i<=n2) ? coeff2[i] : 0;

}

printf("Result:");

for(i=n3;i>=0;i--)

{

if(result[i]!=0)

{

if(i!=0)

{

printf("%dx^%d+",result[i],i);

}

if(i==0)

printf("%d",result[i]);

}

}

printf("\n");

printf("Multiplication\n");

n3=n1+n2;

for(i=0;i<=n3;i++)

{

result[i]=0;

}

for(i=0;i<=n1;i++)

{

for(j=0;j<=n2;j++)

{

result[i+j]+=coeff1[i]\*coeff2[j];

}

}

printf("Result:");

for(i=n3;i>=0;i--)

{

if(result[i]!=0)

{

if(i!=0)

{

printf("%dx^%d+",result[i],i);

}

if(i==0)

printf("%d",result[i]);

}

}

printf("\n");

return 0;

}

OUTPUT:

Enter degree of first polynomial:3

Enter coefficients of first polynomial:

1

2

3

4

Enter degree of second polynomial:2

Enter coefficients of second polynomial:

1

3

2

Addition

Result:1x^3+3x^2+6x^1+6

Subtraction

Result:1x^3+1x^2+2

Multiplication

Result:1x^5+5x^4+11x^3+17x^2+18x^1+8