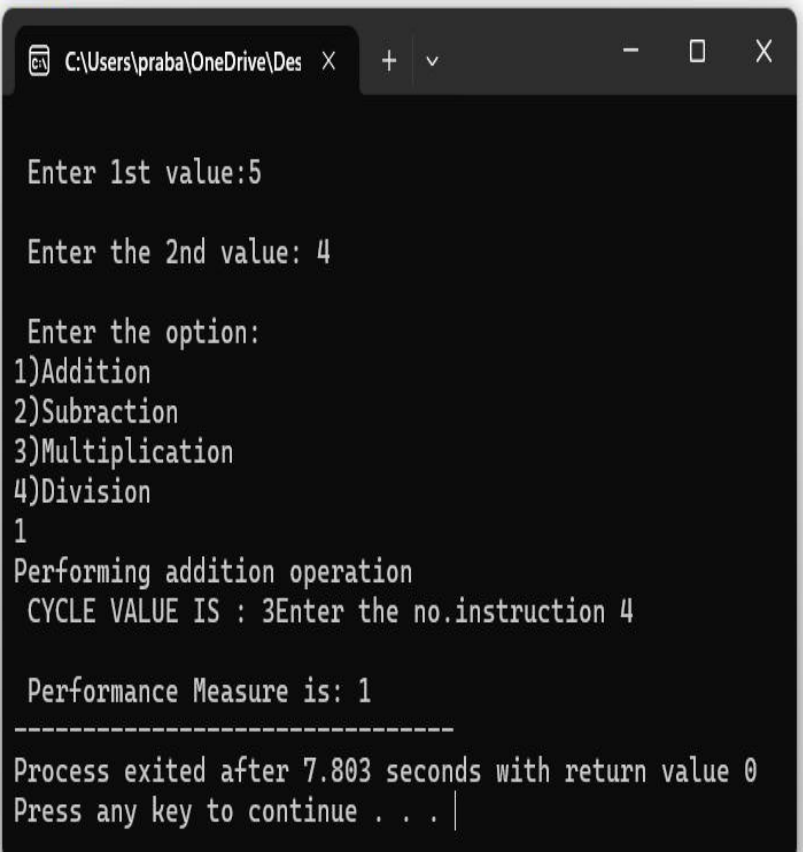**FOUR STAGE PIPELINE**

EXP NO: 36

AIM: To write a C program to implement Four stage Pipeline.

ALGORITHM:

1. **Fetch** the instruction from memory and increment the program counter.
2. **Decode** the fetched instruction to identify the operation and operands.
3. **Execute** the operation using the decoded operands.
4. **Writeback** the result to the destination register or memory.

PROGRAM/OUTPUT SS:

```c
#include<stdio.h>
int main(){
int counter=0;
int input;
int num1,num2;
int op;
int res;
int ins;
int performance_measure=0;
printf("\n Enter 1st value:");
scanf("%d",&num1);
counter+=1;
printf("\n Enter the 2nd value: ");
scanf("%d",&num2);
counter+=1;
printf("\n Enter the option:\n1)Addition\n2)Subraction\n3)Multiplication\n4)Division");
scanf("%d",&op);
switch(op){
case 1:
printf("Performing addition operation");
res=num1+num2;
            counter+=1;
            break;
case 2:
            printf("Performing subraction operation");
res=num1-num2;
            counter+=1;
            break;
case 3:
            printf("Performing multiplication operation");
        res=num1*num2;
            counter+=1;
            break;
case 4:
            if(num2==0){
            printf("\n Denominator can't be zero");}
            else{
            printf("Performing division operation");
res=num1/num2;
            counter+=1;
            break;
            }
default:
            printf("Invalid case...");
            counter+=3;
            break;}
printf("\n CYCLE VALUE IS : %d",counter);
printf("Enter the no.instruction");
scanf("%d",&ins);
performance_measure=ins/counter;
printf("\n Performance Measure is: %d",performance_measure);
}
```

```
Enter 1st value:5

Enter the 2nd value: 4

Enter the option:
1)Addition
2)Subraction
3)Multiplication
4)Division
1
Performing addition operation
 CYCLE VALUE IS : 3Enter the no.instruction 4

 Performance Measure is: 1
------------------------------------
Process exited after 7.803 seconds with return value 0
Press any key to continue . . .
```

RESULT: Thus the C program has been executed successfully using DevC++.