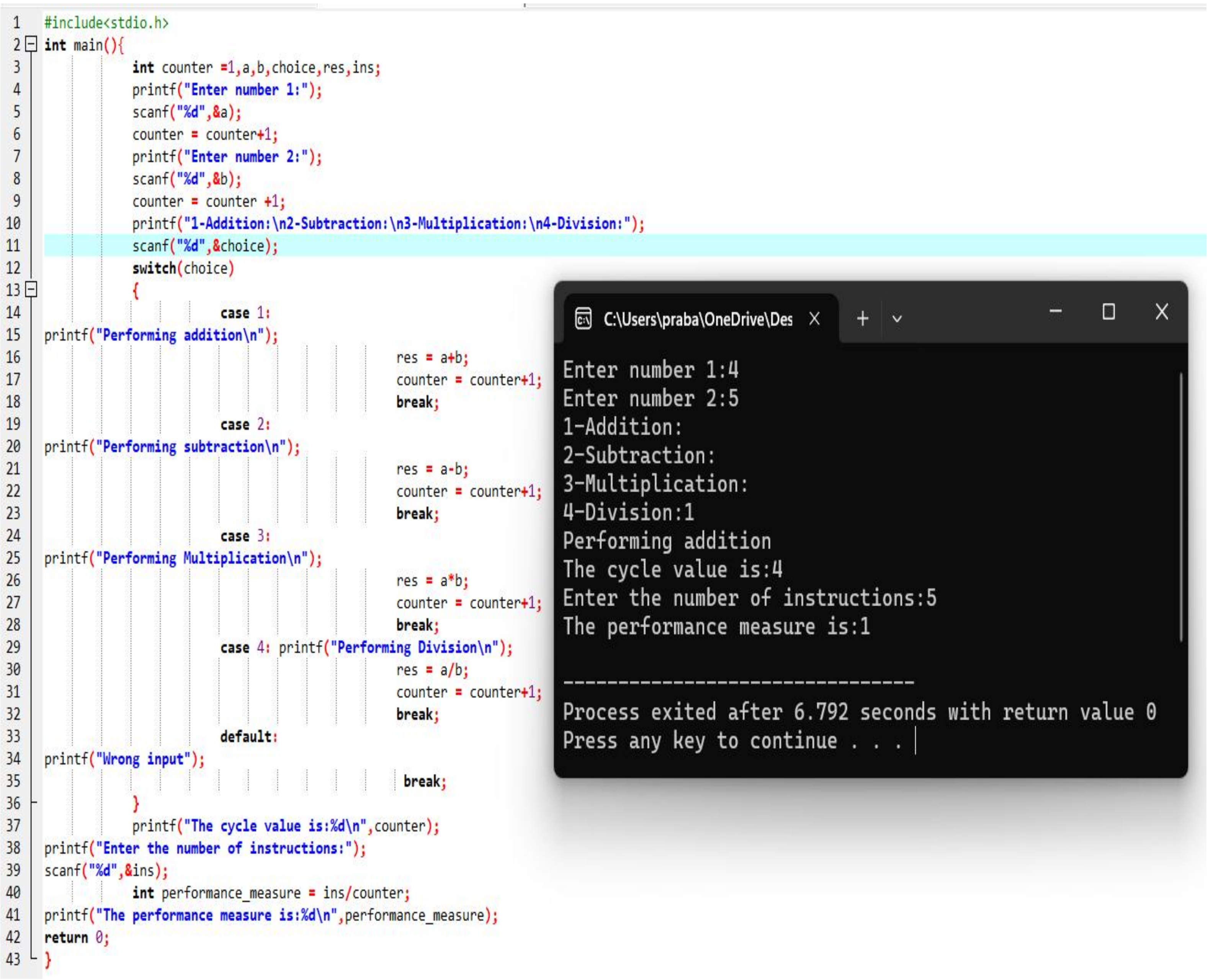
TWO STAGE PIPELINE
EXP NO: 37
AIM: To write a C program to implement two stage pipelining.
PROCEDURE:

Step1:Start
Step 2: Initialize the counter variable to 1.
Step 3:.Prompt the user to enter the first number (a).
Step 4:.Read the first number (a) from the user.
Step 5:Increment the counter by 1.
Step 6:Prompt the user to enter the second number (b).
Step 7:Read the second number (b) from the user.
Step 8:.Increment the counter by 1.
Step 9:Display the menu of operations: Addition, Subtraction, Multiplication, and Division.
Step 10:Prompt the user to select an operation (choice).
Step 11:Read the choice from the user.
Step 12:Use a switch statement to perform the operation based on the selected choice:
12.1For choice 1: Perform addition (res = a + b). Increment the counter by 1.
12.2For choice 2: Perform subtraction (res = a - b). Increment the counter by 1.
12.3. For choice 3: Perform multiplication (res = a * b). Increment the counter by 1.
12.4 For choice 4: Perform division (res = a / b). Increment the counter by 1.
12.5. For any other choice: Display "Wrong input".
Step 13: Display the value of the counter (the number of cycles taken).
Step 14:Prompt the user to enter the number of instructions (ins).
Step 15:Read the number of instructions (ins) from the user.
Step 16:Calculate the performance measure by dividing the number of instructions (ins) by the counter and store it in the
performance measure variable.
Step 17:Display the performance measure
Step 18:End

PROGRAM/OUTPUT SS:



```c
#include<stdio.h>
int main(){
        int counter =1,a,b,choice,res,ins;
        printf("Enter number 1:");
        scanf("%d",&a);
        counter = counter+1;
        printf("Enter number 2:");
        scanf("%d",&b);
        counter = counter +1;
        printf("1-Addition:\n2-Subtraction:\n3-Multiplication:\n4-Division:");
        scanf("%d",&choice);
        switch(choice)
        {
                case 1:
printf("Performing addition\n");
                                res = a+b;
                                counter = counter+1;
                                break;
                case 2:
printf("Performing subtraction\n");
                                res = a-b;
                                counter = counter+1;
                                break;
                case 3:
printf("Performing Multiplication\n");
                                res = a*b;
                                counter = counter+1;
                                break;
                case 4: printf("Performing Division\n");
                                res = a/b;
                                counter = counter+1;
                                break;
                default:
printf("Wrong input");
                                 break;
        }
        printf("The cycle value is:%d\n",counter);
printf("Enter the number of instructions:");
scanf("%d",&ins);
        int performance_measure = ins/counter;
printf("The performance measure is:%d\n",performance_measure);
return 0;
}
```

```
Enter number 1:4
Enter number 2:5
1-Addition:
2-Subtraction:
3-Multiplication:
4-Division:1
Performing addition
The cycle value is:4
Enter the number of instructions:5
The performance measure is:1


--------------------------------
Process exited after 6.792 seconds with return value 0
Press any key to continue . . .
```

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