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

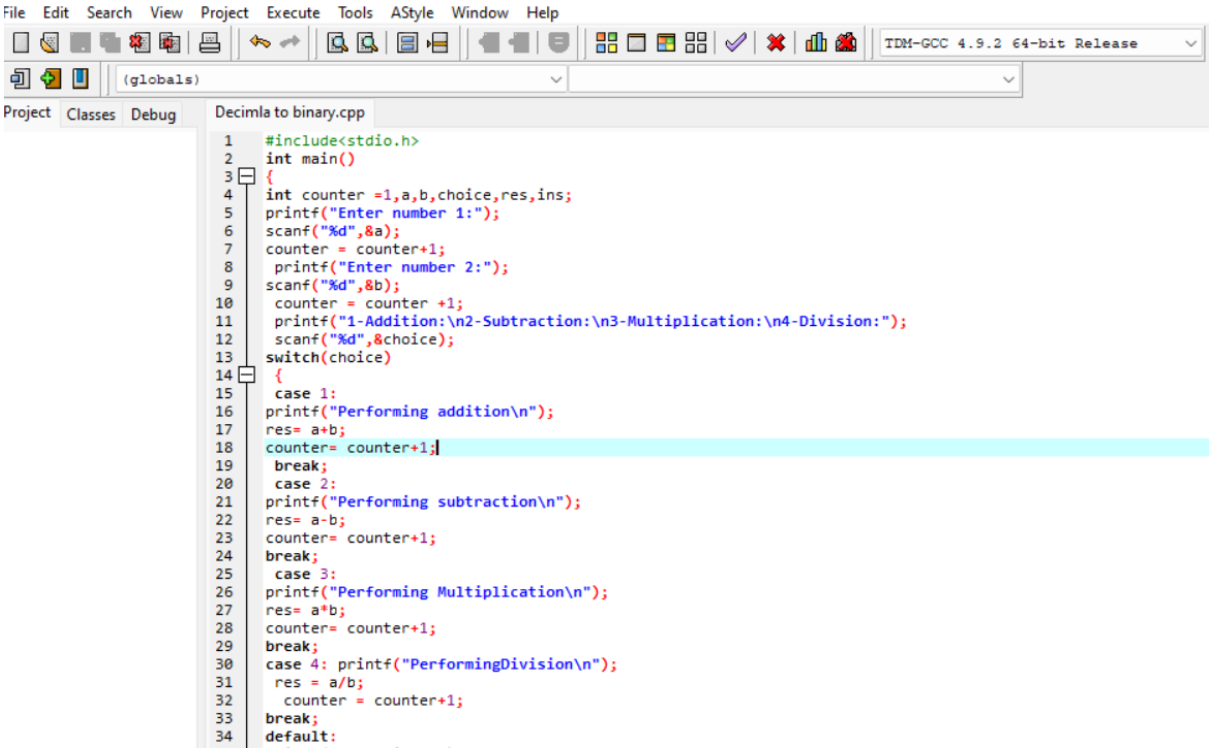
Step 18:End

PROGRAM:

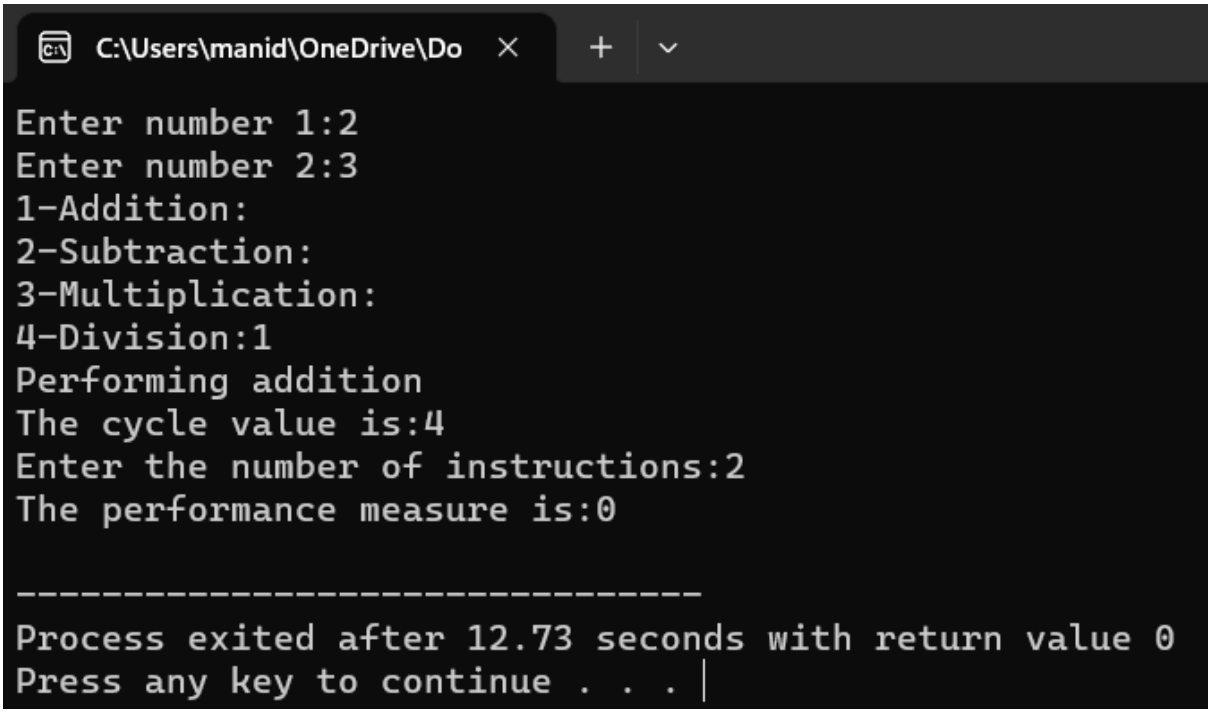
```
#include<stdio.h>
int main()
{
int counter =1,a,b,choice,res,ins;
printf("Enter number 1:");
scanf("%d",&a);
counter = counter+1;
 printf("Enter number 2:");
scanf("%d",&b);
 counter = counter +1;
 printf("1-Addition:\n2-Subtraction:\n3-Multiplication:\n4-Division:");
 scanf("%d",&choice);
switch(choice)
 {
 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("PerformingDivision\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);
}

INPUT:



OUTPUT:



RESULT: Thus the program was executed successfully using DevC++.