**THREE STAGE AND OPERATION**  
**EXP NO: 38**  
**AIM:**To write a C program to implement three stage and operation.  
**PROCEDURE:**

1. Initialize the counter variable to 1.
2. Input the first number (**a**) and increment the counter.
3. Input the second number (**b**) and increment the counter.
4. Perform a logical AND operation between **a** and **b** and store the result (**res**).
5. Print the result and increment the counter.
6. Input the number of instructions (**INS**).
7. Calculate the performance measure as **(float) INS / counter**.
8. Print the performance measure.

**PROGRAM:**  
#include <stdio.h>

int main() {

int counter = 1;

int a, b, res, choice, INS, ins;

float performance\_measure;

// Input for NUMBER-1

printf("ENTER NUMBER-1-");

scanf("%d", &a);

counter = counter + 1;

// Input for NUMBER-2

printf("ENTER NUMBER-2-");

scanf("%d", &b);

counter = counter + 1;

// Logical AND operation

res = a && b;

counter = counter + 1;

printf("%d\n", res);

counter = counter + 2;

// Input for the number of instructions

printf("enter no. of instructions:");

scanf("%d", &INS);

performance\_measure = (float)INS / counter;

printf("performance measure: %f\n", performance\_measure);

// 4-stage pipeline code

counter = 1;

// Input for NUMBER-1

printf("ENTER NUMBER-1-");

scanf("%d", &a);

counter = counter + 1;

// Input for NUMBER-2

printf("ENTER NUMBER-2-");

scanf("%d", &b);

counter = counter + 1;

printf("1-ADDITION 2-SUBTRACTION 3-MULTIPLICATION 4-DIVISION\n");

printf("Enter Your Choice\n");

scanf("%d", &choice);

if (choice == 1) {

printf("Performing Addition...\n");

res = a + b;

counter = counter + 1;

}

else if (choice == 2) {

printf("Performing Subtraction...\n");

res = a - b;

counter = counter + 1;

}

else if (choice == 3) {

printf("Performing Multiplication\n");

res = a \* b;

counter = counter + 1;

}

else if (choice == 4) {

if (b == 0) {

printf("Denominator can't be Zero\n");

}

else {

printf("Performing Division\n");

res = a / b;

counter = counter + 1;

}

}

else {

printf("Enter Correct Input\n");

}

printf("%d\n", res);

counter = counter + 3;

printf("CYCLE VALUE IS: %d\n", counter);

// Input for the number of instructions

printf("Enter the No. of instructions:");

scanf("%d", &ins);

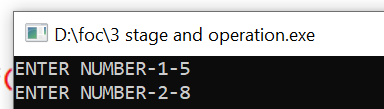
performance\_measure = (float)ins / counter;

printf("performance measure is: %f\n", performance\_measure);

return 0;

}

**INPUT:**

  
  
**OUTPUT:**

**A screenshot of a computer

Description automatically generated**

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