

## Experiment - 1

## LAB EXPERIMENT - 1

## AIM:

To perform the addition of two numbers using C program

## ALGORITHM:

STEP 1: Start the program

STEP 2: Declare the Variables a and b and c

STEP 3: Read the Variables a and b

STEP 4: Calculate  $c = a + b$

STEP 5: Display c

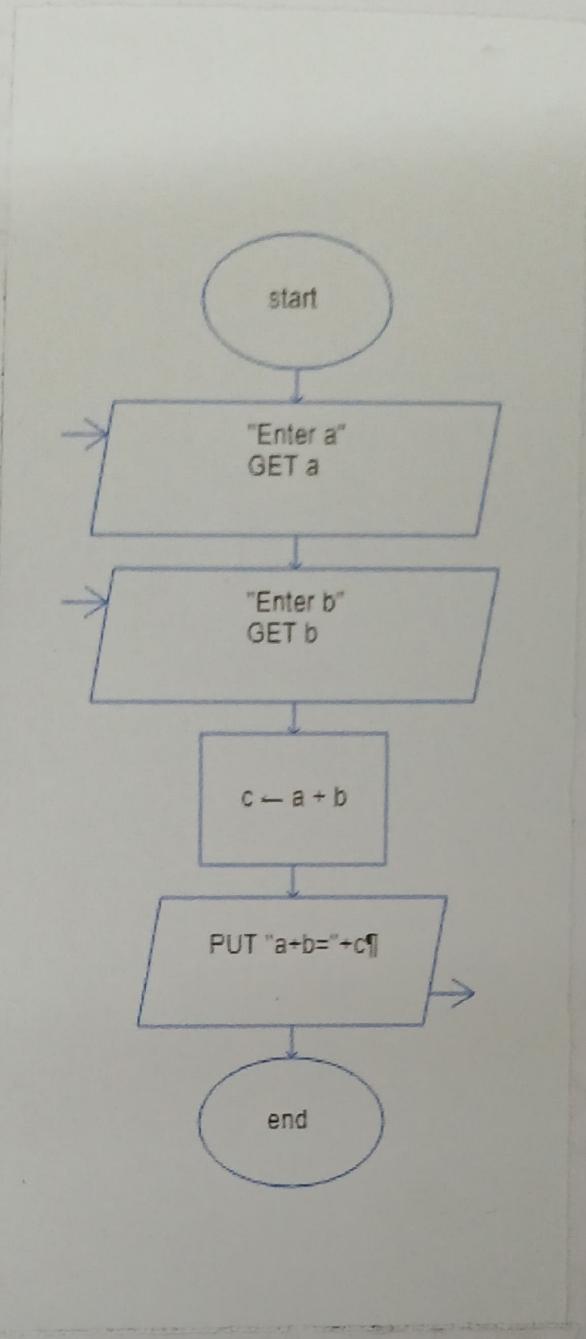
STEP 6: Stop the program

## PROGRAM :

```
#include <stdio.h>
int main()
{
    int a, b, c;
    printf ("Enter a and b");
    scanf ("%d%d", &a, &b);
    c = a + b;
    printf ("The addition of two numbers is %d", c);
    return 0;
}
```

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## FLOWCHART:



OUTPUT:

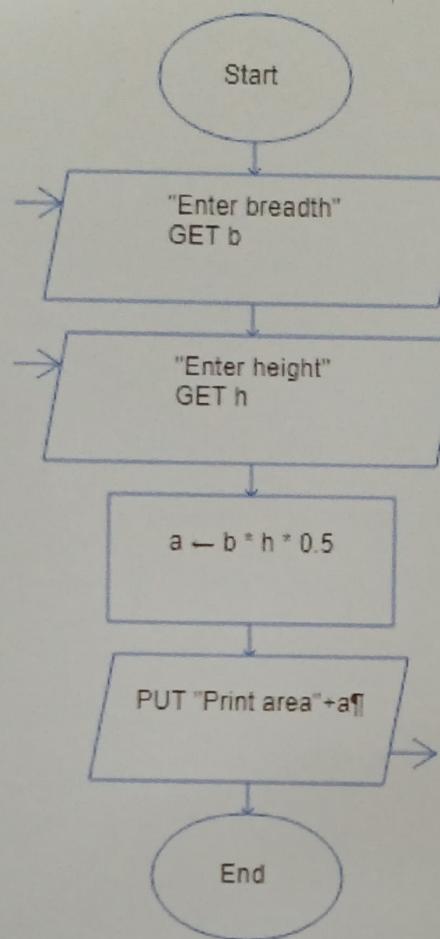
```
Output
Enter a and b: 10 54
Addition: 64
--- Code Execution Successful ---
```

A screenshot of a terminal window titled "Output". The window shows the command "Enter a and b: 10 54" being entered, followed by the output "Addition: 64". At the bottom, it says "--- Code Execution Successful ---". There is a red arrow pointing from the word "Output" in the text above to the title of the terminal window.

## RESULT:

Thus the C program has been implemented successfully.

FLOW CHART:



OUTPUT :

```
Output
Enter base and height: 100 10
Area of triangle: 500
*** Code Execution Successful ***
```

A screenshot of a terminal window titled 'Output'. It shows the command 'Enter base and height: 100 10' being entered, followed by the output 'Area of triangle: 500'. A red arrow points from the 'Enter base and height:' text in the terminal to the 'Enter breadth' step in the flowchart above. Another red arrow points from the 'Area of triangle: 500' text in the terminal to the 'Print area' step in the flowchart.

## Experiment - 2

## AIM:

To calculate the area of a triangle. using program.

## ALGORITHM:

STEP 1 : Start the program.

STEP 2 : Declare the a, h, b

STEP 3 : Read the Variables h, b

STEP 4 : Calculate  $a = 0.5 * h * b$

STEP 5 : Display a

STEP 6 : Stop the Program

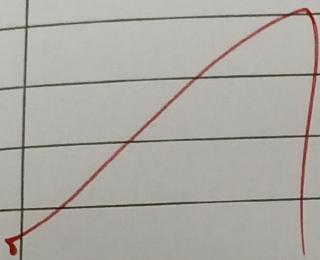
## PROGRAM :

```
#include < stdio.h >
int main ()
{
    int b, h, a;
    printf ("Enter b and h");
    scanf ("%d %d", &b, &h);
    a = 0.5 * h * b
    printf ("A
    return 0;
}
```

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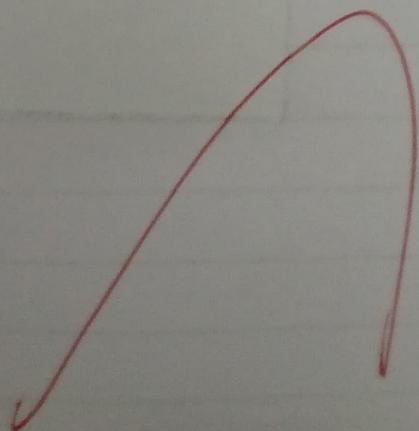
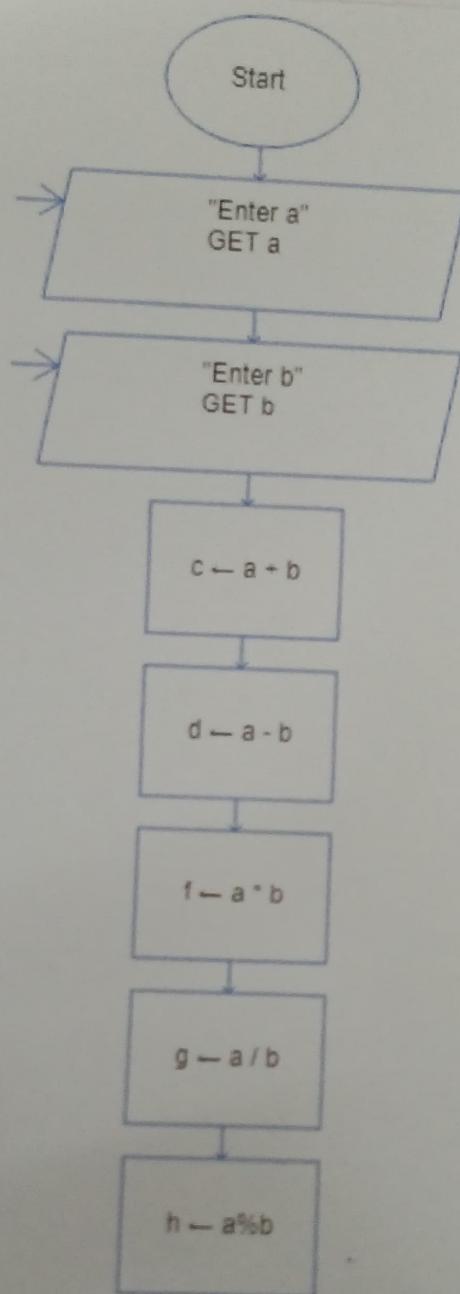
**RESULT :**

Thus the C program has been implemented successfully.



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FLOWCHART:



## Experiment - 3

## AIM:

To perform addition, subtraction, multiplication, division, modulus and square of a number using C program

## ALGORITHM:

STEP 1: Start the Program.

STEP 2: Declare the Variables a,b,c,d,e,f,g,h;

STEP 3: Read the Variables a, b

STEP 4: Calculate  $c = a + b$

STEP 5: Calculate  $d = a - b$

STEP 6: Calculate  $e = a * b$

STEP 7: Calculate  $f = a / b$

STEP 8: Calculate  $g = a \% b$

STEP 9: Calculate  $h = a * a$ .

STEP 10: Display c

STEP 11: Display d

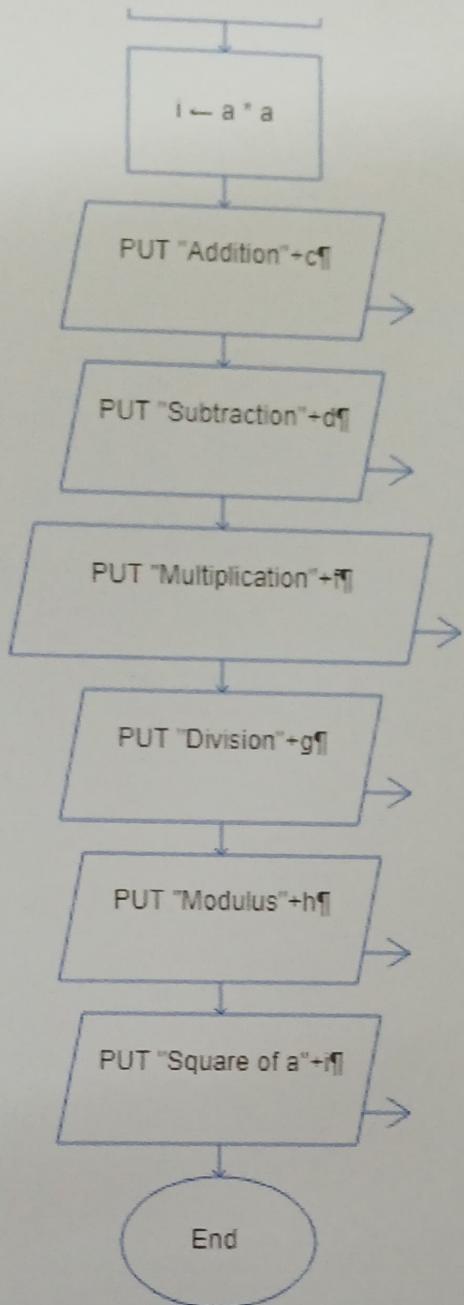
STEP 12: Display e

STEP 13: Display f

STEP 14: Display g

STEP 15: Display h

STEP 16: Stop the program



OUTPUT :

Output

Enter a and b: 10 5

```

Addition: 15
Subtraction: 5
Multiplication: 50
Division: 2
Modulus: 0
a square 100

--- Code Execution Successful ---
  
```

Clear

## PROGRAM :

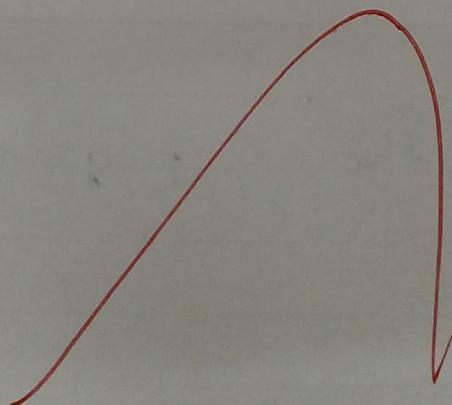
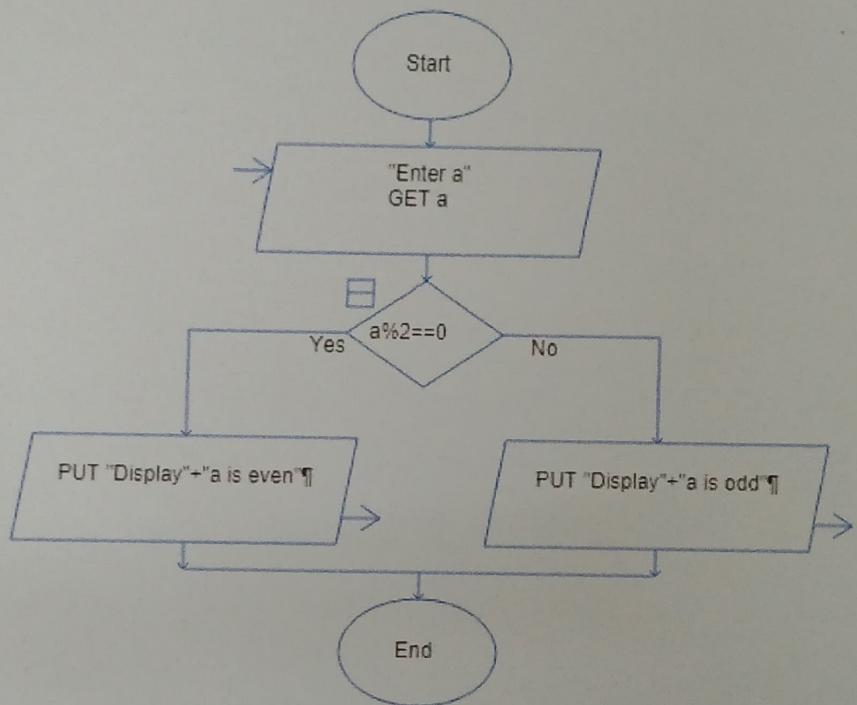
```
#include <stdio.h>
int main() {
    int a, b, c, d, e, f, g, h;
    printf ("enter a and b");
    scanf ("%d %d", &a, &b);
    c = a+b;
    d = a-b;
    e = a*b;
    f = a/b;
    g = a%b;
    h = a*a;
    printf ("The addition of two numbers is %d", c);
    printf ("In The subtraction of two numbers is %d", d);
    printf ("In The multiplication of two numbers is %d", e);
    printf ("In The division of two numbers is %d", f);
    printf ("In The modulus of two numbers is %d", g);
    printf ("In The square of two numbers is %d", h);
    return 0;
}
```

y

## RESULT:

Thus the C program has been implemented successfully.

FLOWCHART :



## Experiment - 4

## AIM:

To check whether a given number is odd or even using C program

## ALGORITHM:

STEP 1: Start the program

STEP 2: Declare the Variable a

STEP 3: Read the Variable a

STEP 4: Check the condition If ( $a \% 2 == 0$ ) then  
print a is even

STEP 5: Else

print a is odd

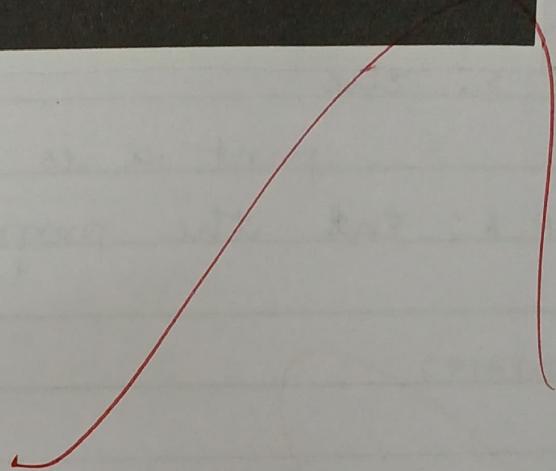
STEP 6: End the program

## PROGRAM:

```
#include <stdio.h>
int main()
{
    int a;
    printf("enter a Value");
    scanf("%d", &a);
    If ((a % 2) == 0)
    {
        printf("%d is an even number");
    }
}
```

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OUTPUT:



```
Output                                         Clear
Enter an number: 23
Odd
--- Code Execution Successful ---
```

3

else

{

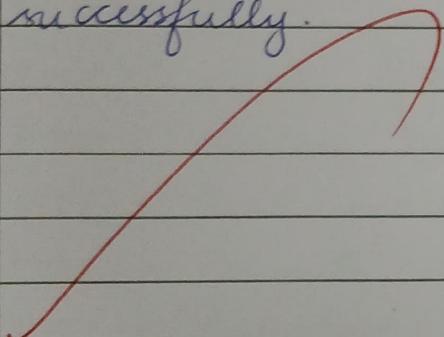
printf ("%d is odd number");

}

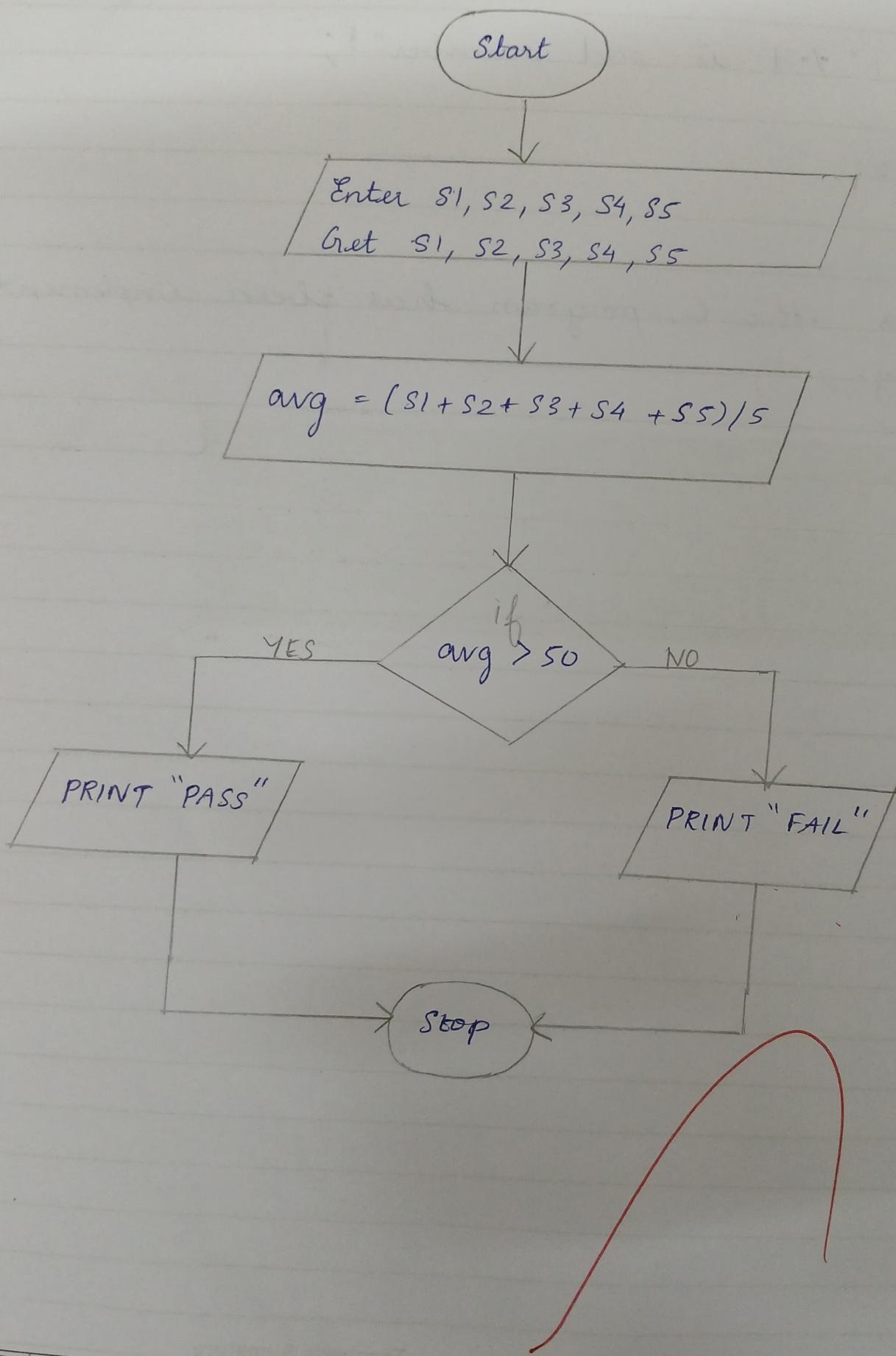
return 0;

RESULT:

Thus the C program has been implemented successfully.



FLOWCHART:



## Experiment - 5

## AIM:

To calculate the average and determine pass or fail based on the average.

## ALGORITHM:

STEP 1: Start the program

STEP 2: Declare marks of five subjects:  $S_1, S_2, S_3, S_4, S_5$ ,  $f$

STEP 3: Read marks of five subjects:  $S_1, S_2, S_3, S_4, S_5$

STEP 4: Compute sum =  $S_1 + S_2 + S_3 + S_4 + S_5$

STEP 5: Calculate  $f = (S_1 + S_2 + S_3 + S_4 + S_5) / 5$

STEP 6: Check the condition

if  $f \geq 50$  then

print "PASS"

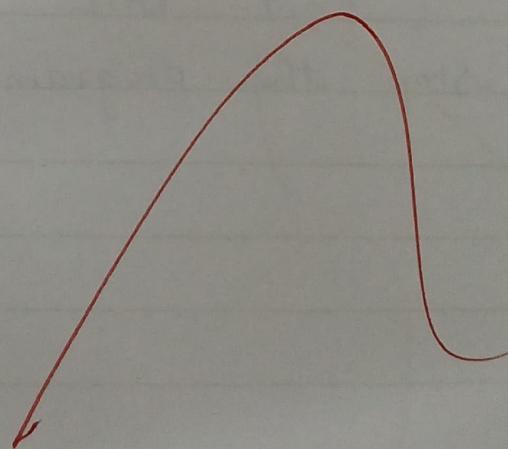
STEP 7: else

print "FAIL"

STEP 8: Stop the program

OUTPUT:

```
C:\Users\cs-lab\Desktop\Untitled + 
Enter sub1,sub2,sub3,sub4,sub5 mark:94 27 48 96 65
Pass
```



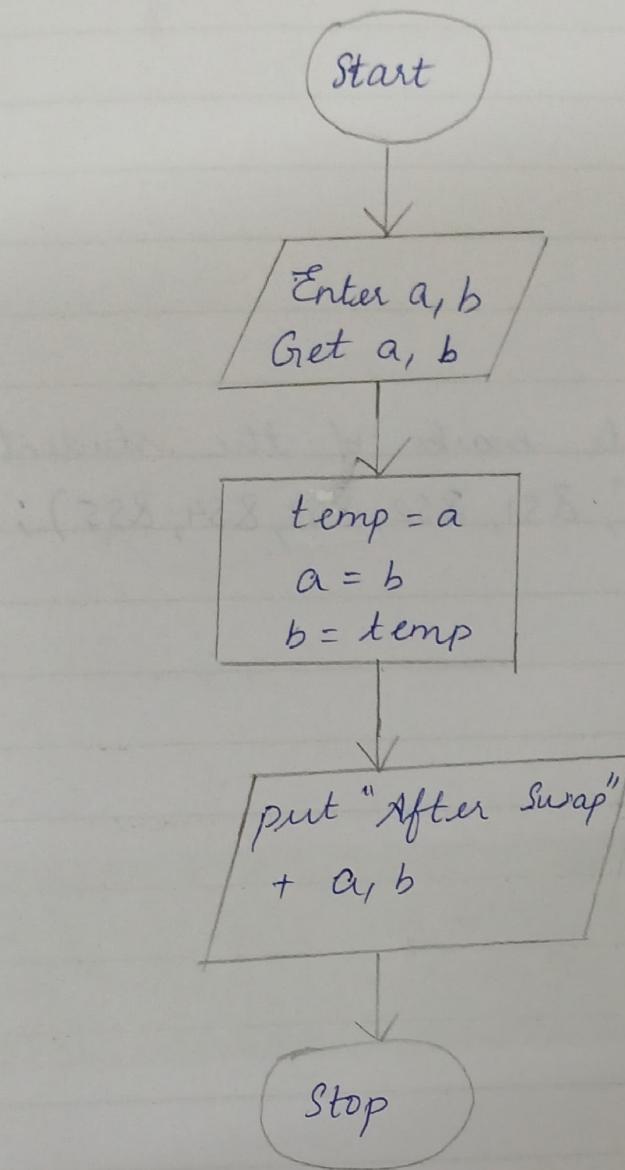
## PROGRAM:

```
#include < stdio.h >
int main()
{
    float s1, s2, s3, s4, s5;
    float f;
    printf("Enter 5 Subjects marks of the student");
    scanf("%f %f %f %f %f", &s1, &s2, &s3, &s4, &s5);
    f = (s1 + s2 + s3 + s4 + s5);
    if (f > 50)
    {
        printf("\n pass");
    }
    else
    {
        printf("\n fail");
    }
    return 0;
}
```

## RESULT:

Thus the C program has been implemented successfully.

FLOWCHART :



OUTPUT :

```
C:\Users\cs-lab\Desktop\E012 > Enter a and b : 10 20
Swapped numbers 20      10
```

A screenshot of a terminal window titled "C:\Users\cs-lab\Desktop\E012". The window displays the command "Enter a and b : 10 20" followed by the output "Swapped numbers 20 10". A red arrow points from the word "Output" in the text above to the terminal window.

## Experiment - 6

## AIM:

To perform swapping of two numbers using a temporary variable and without using a temporary variable.

## ALGORITHM:

STEP 1: Start the program

STEP 2: Declare the Variables a,b

STEP 3: Read the Variables a,b

STEP 4: Calculate  $a = a + b$

STEP 5: Calculate  $b = a - b$

STEP 6: Calculate  $a = a - b$

STEP 7: Display a,b

STEP 8: Stop the program

## PROGRAM:

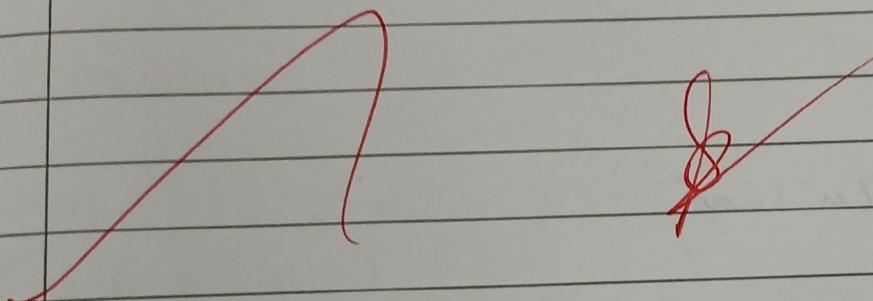
```
#include <stdio.h>
int main()
{
    int a, b;
    printf("Enter a, b");
    scanf("%d %d", &a, &b);
    a = a + b;
    . . .
```

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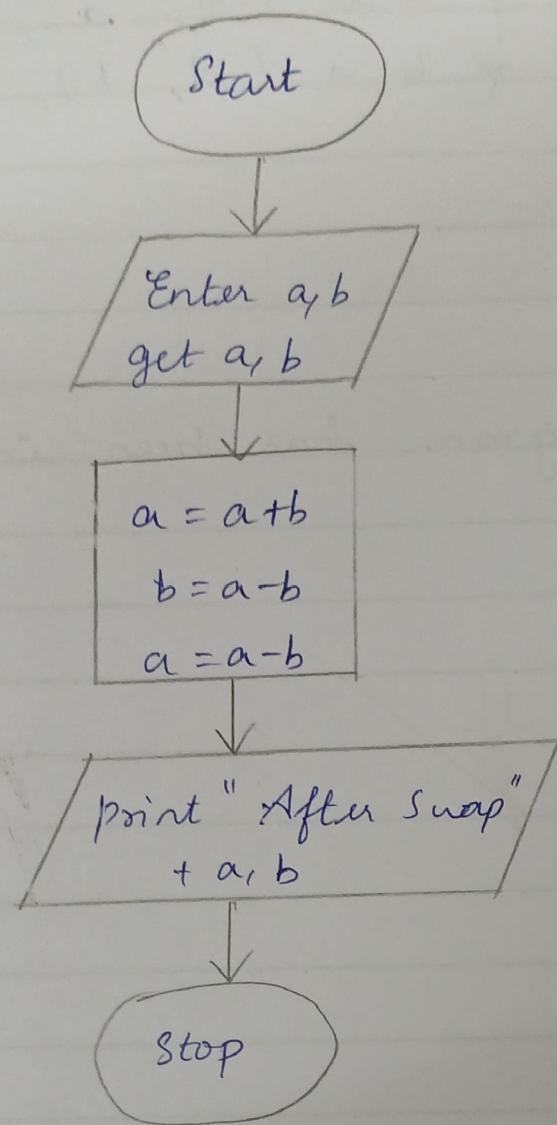
```
b = a - b;  
a = a - b;  
printf ("In The Value of a is %d, " a);  
printf ("In The Value of b is %d, " b);  
return 0;  
}
```

**RESULT:**

Thus the c program has been implemented successfully.



FLOWCHART:



OUTPUT:

```
C:\Users\cs-lab\Desktop\E012 > Enter a and b : 10 20  
Swapped numbers 20 10
```

A screenshot of a terminal window titled 'C:\Users\cs-lab\Desktop\E012'. The window displays the command 'Enter a and b : 10 20' followed by the output 'Swapped numbers 20 10'. A red arrow points from the bottom right towards the terminal window.

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**ALGORITHM :**

- STEP 1: Start the program  
 STEP 2: Declare the Variables a, b, temp  
 STEP 3: Read the Variables a, b  
 STEP 4: Set temp = a  
 STEP 5: Set a = b  
 STEP 6: Set b = temp  
 STEP 7: Display a, b  
 STEP 8: Stop the program

**PROGRAM:**

```
#include <stdio.h>
int main ()
{
    int a, b, temp;
    printf ("Enter a and b")
    scanf ("%d%d", &a, &b);
    temp=a;
    a=b;
    b=temp;
    printf ("\n The Value of a is %d", a);
    printf ("\n The Value of b is %d", b);
    return 0;
}
```

**RESULT:**

~~12 08 2023.~~  
 Thus the c program has been implemented successfully.

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