

# IT LAB 3

## EXPERIMENT 1

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**Date:** 15/01/2022

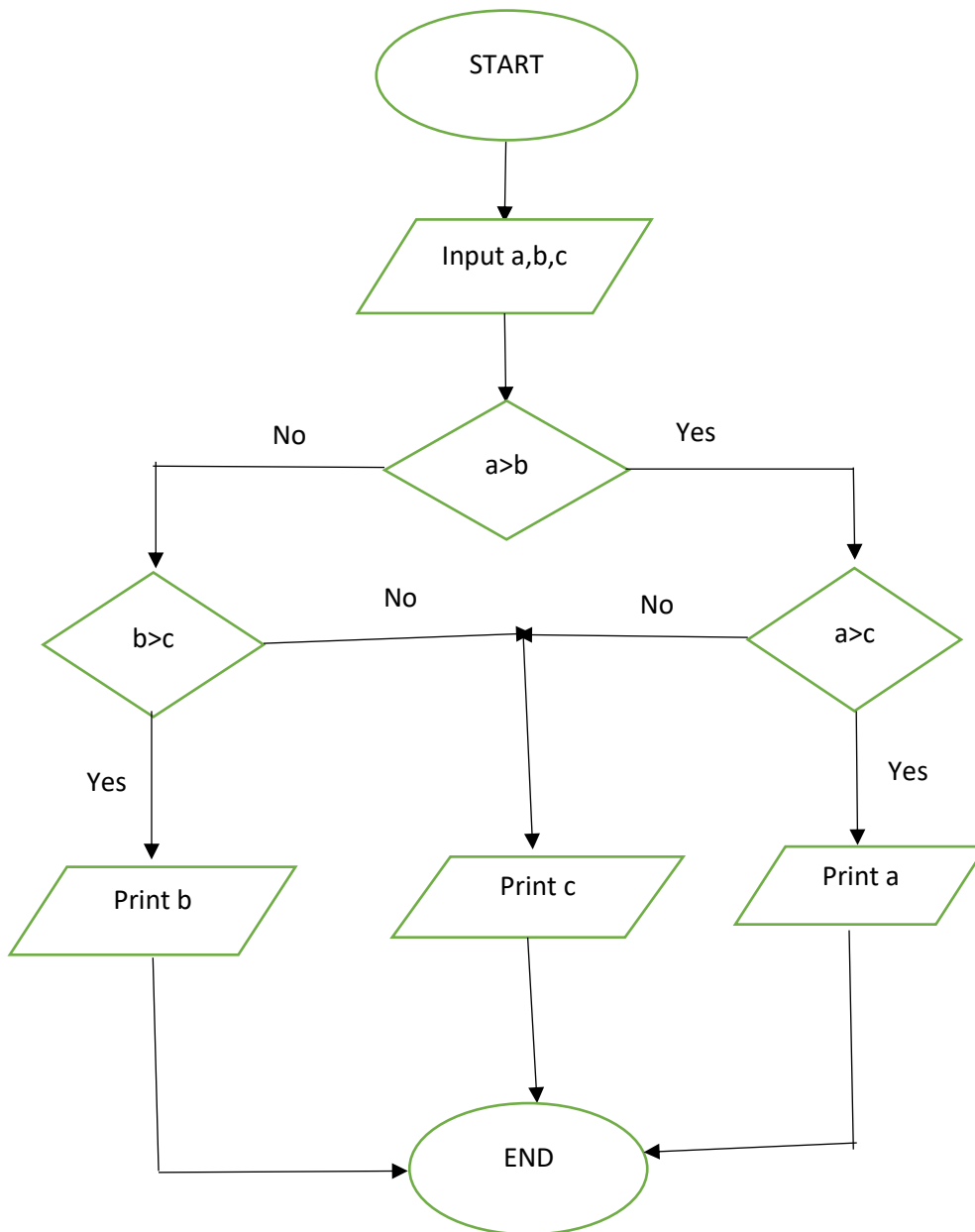
**Objective:** To create a C program to find the greatest in 3 numbers.

**Software:** Online GDB

**Methodology:**

1. Define 3 intergers a,b,c.
2. Printf “ Enter Three Numbers”.
3. Read the numbers.
4. If  $a > b$  and  $a > c$  then a is the greatest among a,b,c.
5. If  $a < b$  and  $c < b$  then b is the greatest among a,b,c.
6. If the above two conditions fail, c will be the greatest among a,b,c.

## Flowchart:



## CODE:

```
#include <stdio.h>

#include<math.h>

int main()
{
    int a,b,c;

    printf("Enter Three Numbers:");

    scanf("%d %d %d", &a, &b, &c);

    if (a>b && a>c)

        printf("The greatest Number is:%d",a);

    else if (a<b && c<b)

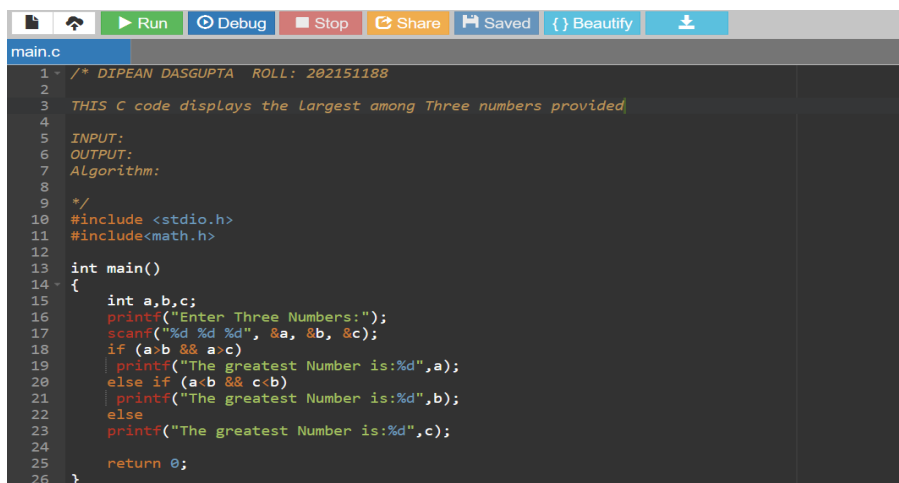
        printf("The greatest Number is:%d",b);

    else

        printf("The greatest Number is:%d",c);

    return 0;

}
```



The screenshot shows a code editor window titled 'main.c'. The editor contains the same C code as shown in the previous block. The code is written in a dark-themed editor with syntax highlighting. The code is as follows:

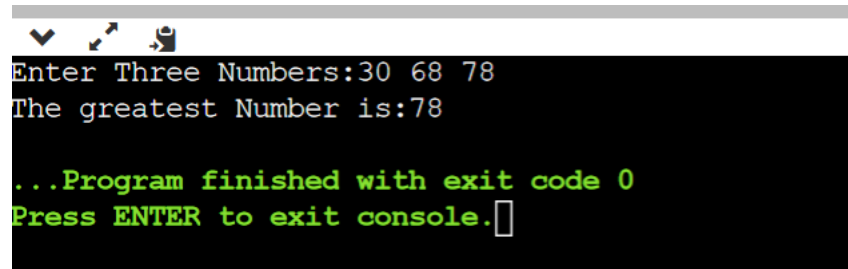
```
1  /* DIPEAN DASGUPTA  ROLL: 202151188
2
3  THIS C code displays the Largest among Three numbers provided
4
5  INPUT:
6  OUTPUT:
7  Algorithm:
8
9  */
10 #include <stdio.h>
11 #include<math.h>
12
13 int main()
14 {
15     int a,b,c;
16     printf("Enter Three Numbers:");
17     scanf("%d %d %d", &a, &b, &c);
18     if (a>b && a>c)
19         printf("The greatest Number is:%d",a);
20     else if (a<b && c<b)
21         printf("The greatest Number is:%d",b);
22     else
23         printf("The greatest Number is:%d",c);
24
25     return 0;
26 }
```

## RESULT:

### Sample:

Enter Three Numbers: 30 68 78

The Greatest Number is: 78



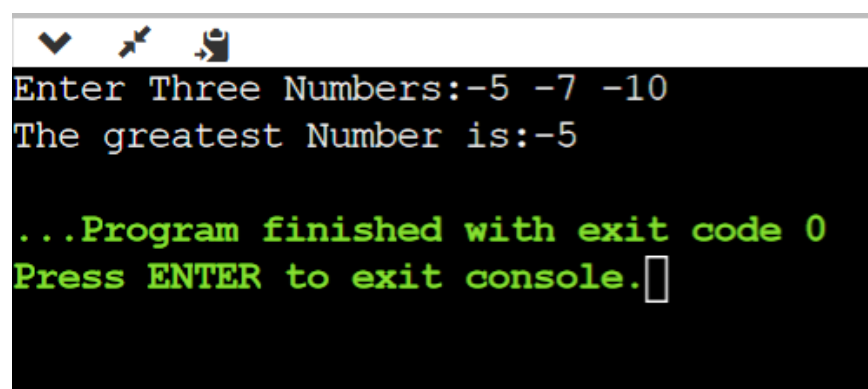
```
Enter Three Numbers:30 68 78
The greatest Number is:78

...Program finished with exit code 0
Press ENTER to exit console.
```

### Sample 2:

Enter Three Numbers: -5 -7 -10

The Greatest Number is: -5



```
Enter Three Numbers:-5 -7 -10
The greatest Number is:-5

...Program finished with exit code 0
Press ENTER to exit console.
```

## Experiment 2(a)

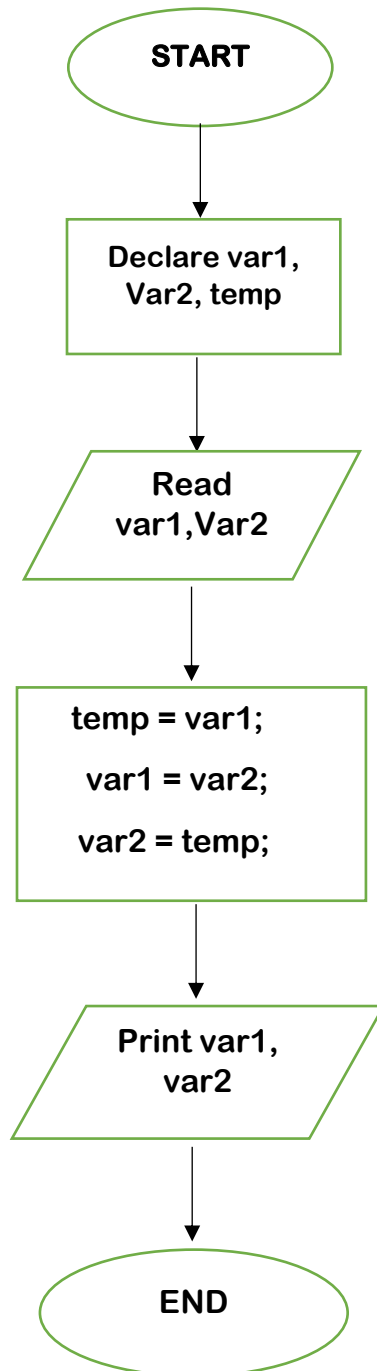
**Objective:** To create a C program to swap 2 numbers using 3<sup>rd</sup> variable.

**Software:** Online GDB

**Methodology:**

1. Declare var1, var2, temp as integers.
2. Read two numbers var1 and var2.
3. Do temp=var1; var1=var2; var2= temp.
4. Print var1 and var2.

## Flowchart:



## CODE:

```
#include <stdio.h>

#include <math.h>

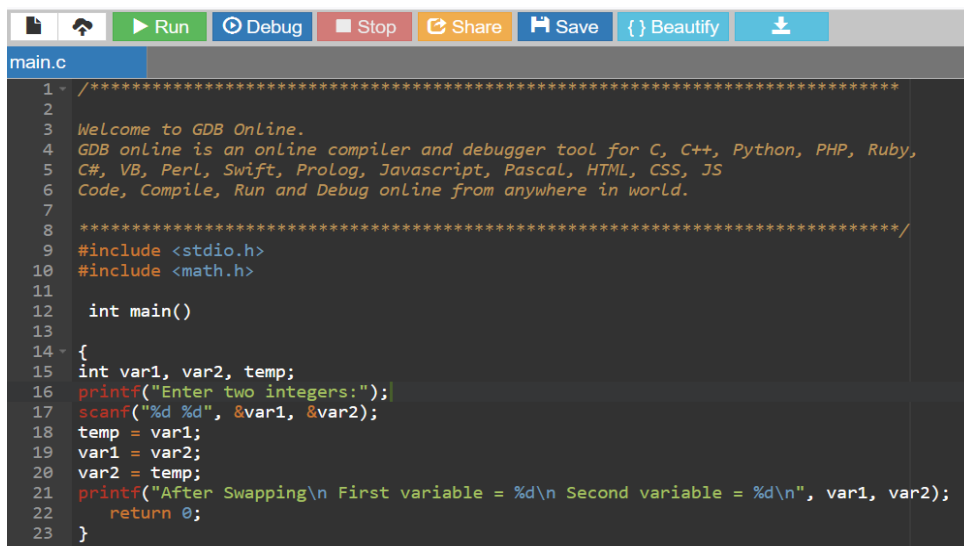
int main()
{
    int var1, var2, temp;

    printf("Enter two integers:");
    scanf("%d %d", &var1, &var2);

    temp = var1;
    var1 = var2;
    var2 = temp;

    printf("After Swapping\n First variable = %d\n Second variable = %d\n", var1,
    var2);

    return 0;
}
```



The screenshot shows a web-based IDE interface for GDB Online. At the top, there is a toolbar with buttons for 'Run', 'Debug', 'Stop', 'Share', 'Save', 'Beautify', and a download icon. Below the toolbar, the file 'main.c' is open. The code in the editor is a C program that swaps two integers using a temporary variable. The code is as follows:

```
1 - /*****
2
3 Welcome to GDB Online.
4 GDB online is an online compiler and debugger tool for C, C++, Python, PHP, Ruby,
5 C#, VB, Perl, Swift, Prolog, Javascript, Pascal, HTML, CSS, JS
6 Code, Compile, Run and Debug online from anywhere in world.
7
8 *****/
9 #include <stdio.h>
10 #include <math.h>
11
12 int main()
13 {
14     int var1, var2, temp;
15     printf("Enter two integers:");
16     scanf("%d %d", &var1, &var2);
17     temp = var1;
18     var1 = var2;
19     var2 = temp;
20     printf("After Swapping\n First variable = %d\n Second variable = %d\n", var1, var2);
21     return 0;
22 }
```

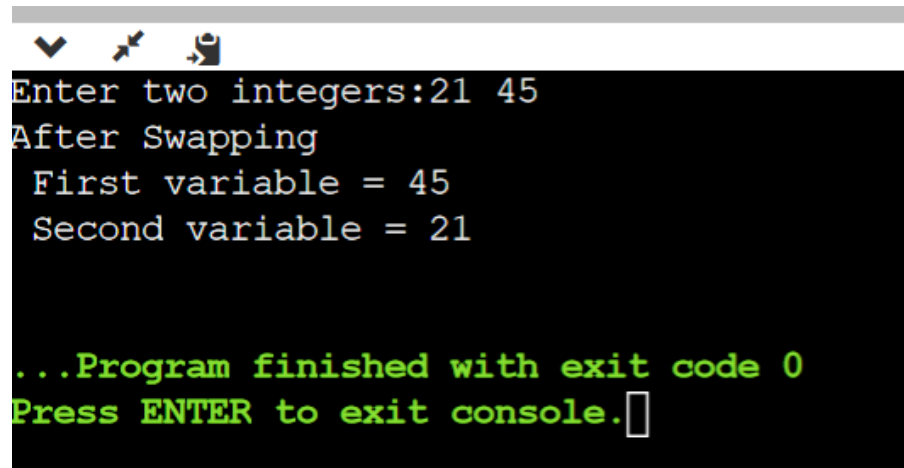
## RESULT:

Sample:

1. Enter two integers 21, 45
2. After swaping ,

First variable: 45

Second variable: 21



```
Enter two integers:21 45
After Swapping
First variable = 45
Second variable = 21

...Program finished with exit code 0
Press ENTER to exit console.
```



## **Experiment 2(b)**

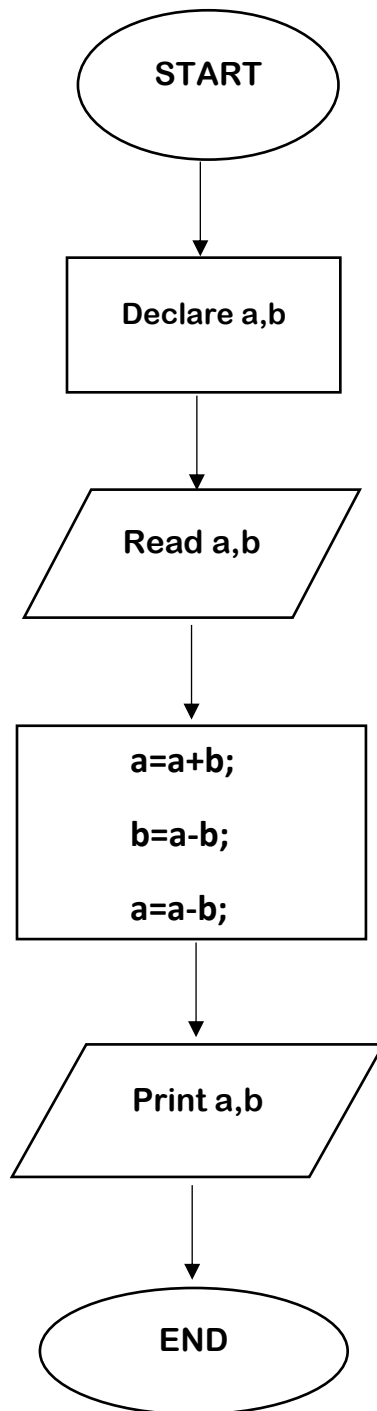
**Objective:** To create a C program to swap 2 numbers without using 3<sup>rd</sup> variable.

**Software:** Online GDB

**Methodology:**

1. Declare two variables a and b as integers.
2. Read two numbers a and b.
3. Do  $a=a+b$ ;  $b=a-b$ ;  $a=a-b$ .
4. Print a and b.

## Flowchart:



# CODE:

```
#include<stdio.h>

int main()

{

int a, b;

printf("Enter Two numbers:");

scanf("%d %d", &a,&b);

printf("Before swap\n a=%d b=%d",a,b);

a=a+b;

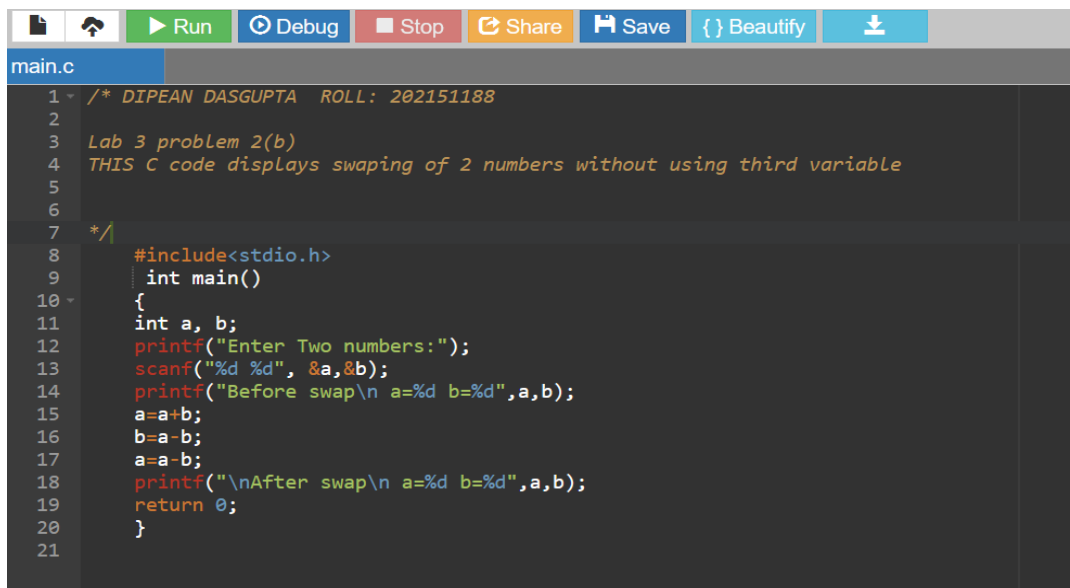
b=a-b;

a=a-b;

printf("\nAfter swap\n a=%d b=%d",a,b);

return 0;

}
```



The screenshot shows a code editor window titled 'main.c'. The editor has a toolbar at the top with buttons for Run, Debug, Stop, Share, Save, Beautify, and Download. The code is as follows:

```
1  /* DIPEAN DASGUPTA  ROLL: 202151188
2
3  Lab 3 problem 2(b)
4  THIS C code displays swapping of 2 numbers without using third variable
5
6
7  */
8  #include<stdio.h>
9  int main()
10 {
11     int a, b;
12     printf("Enter Two numbers:");
13     scanf("%d %d", &a,&b);
14     printf("Before swap\n a=%d b=%d",a,b);
15     a=a+b;
16     b=a-b;
17     a=a-b;
18     printf("\nAfter swap\n a=%d b=%d",a,b);
19     return 0;
20 }
21
```

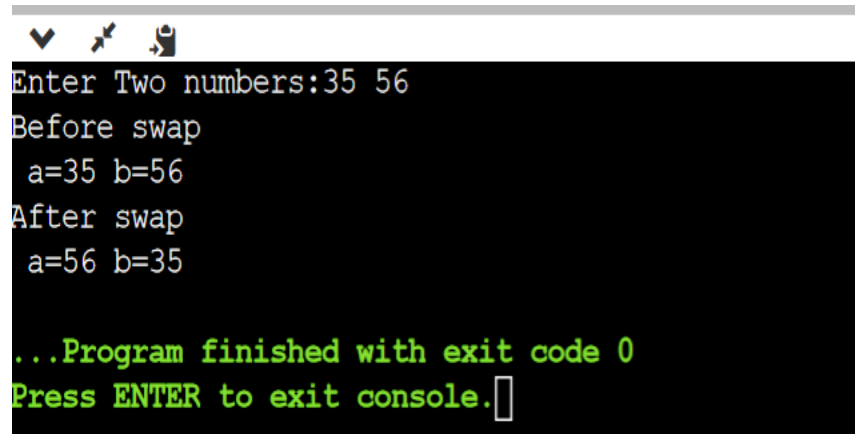
## Result:

### Sample:

1.Enter Two Numbers: 35, 56

2.Before Swap: a=35, b=56.

3.After swap: a=56, b=35.



```
Enter Two numbers:35 56
Before swap
a=35 b=56
After swap
a=56 b=35

...Program finished with exit code 0
Press ENTER to exit console.
```

## Experiment 3

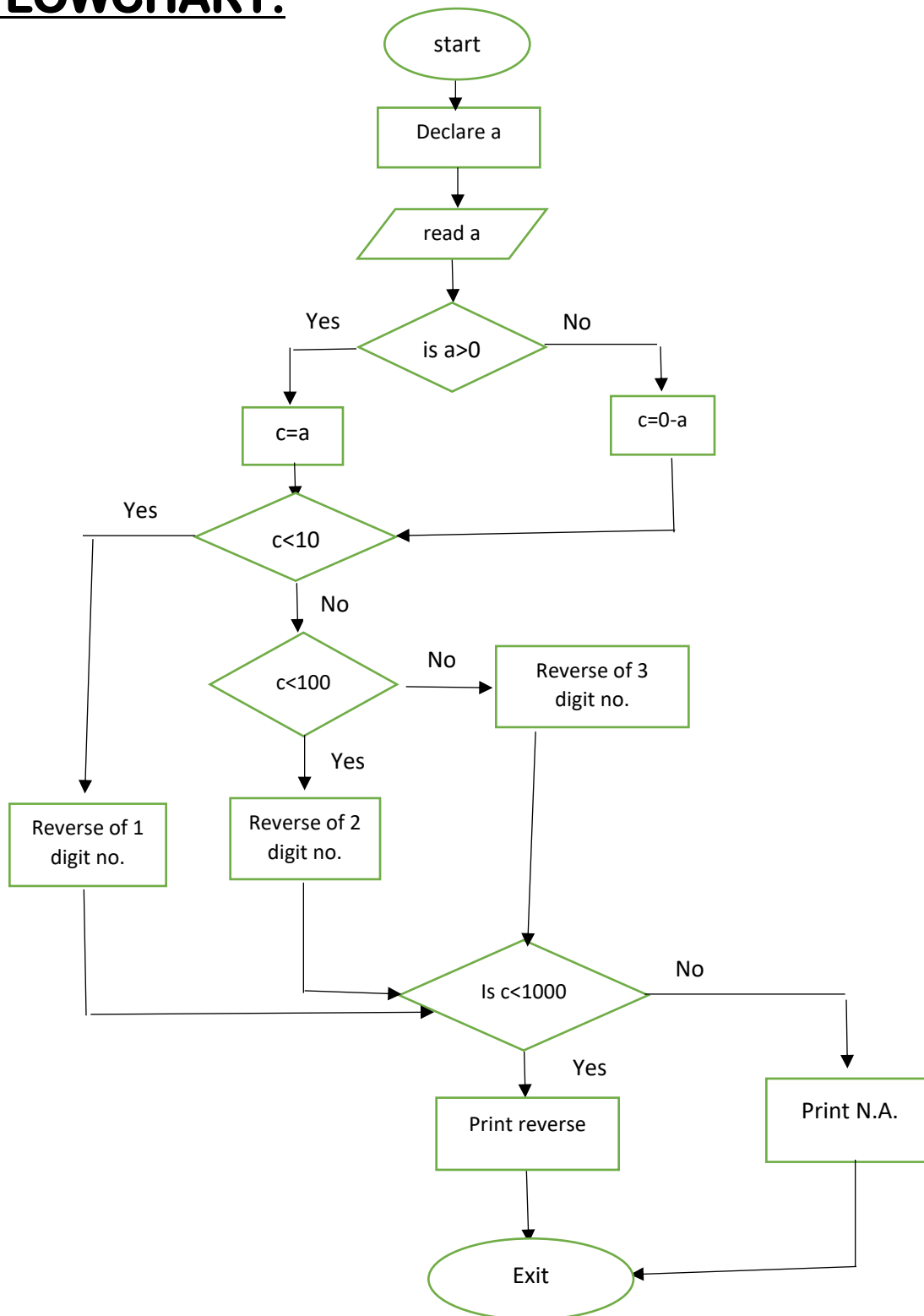
**Objective:** To create a C program to reverse the digits of a given number.

**Software:** Online GDB

**Methodology:**

1. Since max 3 digit number is allowed, so enter a 3 digit number.
2. We have to find the individual digits of the given input by %10, /10, /100. (%10 for ones place, /10 for tens place and /100 for hundredths place)

## FLOWCHART:



## **CODE:**

```
#include<stdio.h>

int main(){
    int a,c,r,reverse;
    printf("enter a number\n");
    scanf("%d",&a);
    if(a>0)
        c=a;
    else if(a<0)
        c=0-a;
    if(c<10)
        reverse=c;
    else if(c<100)
        reverse=(c%10)*10+(c/10);
    else
        reverse=(c%10)*100+((c/10)%10)*10+(c/100);
    if(c<1000)
    {
        if(a>0)
            r=reverse;
        else
            r=0-reverse;
        printf("%d",r);
    }
    else
        printf("the number is more than 3 digit number");
    return 0;
}
```

```
main.c
1  /* Dipean Dasgupta | Roll: 202151188
2  Lab 3 experiment 3
3  This program depicts the code to find the reverse of a 3 digit number
4  */
5
6  #include<stdio.h>
7  int main(){
8      int a,c,r,reverse;
9      printf("enter a number\n");
10     scanf("%d",&a);
11     if(a>0)
12         c=a;
13     else if(a<0)
14         c=0-a;
15     if(c<10)
16         reverse=c;
17     else if(c<100)
18         reverse=(c%10)*10+(c/10);
19     else
20         reverse=(c%10)*100+((c/10)%10)*10+(c/100);
21     if(c<1000)
22     {
23         if(a>0)
24             r=reverse;
25         else
26             r=0-reverse;
27         printf("%d",r);
28     }
29     else
30         printf("the number is more than 3 digit number");
31     return 0;
32 }
```

## RESULT:

Enter a number: 768

Reversed: 867

```
enter a number
768
867

...Program finished with exit code 0
Press ENTER to exit console.
```