IT LAB 3

EXPERIMENT 1

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Student ID: 202151188 **Date:** 15/01/2022

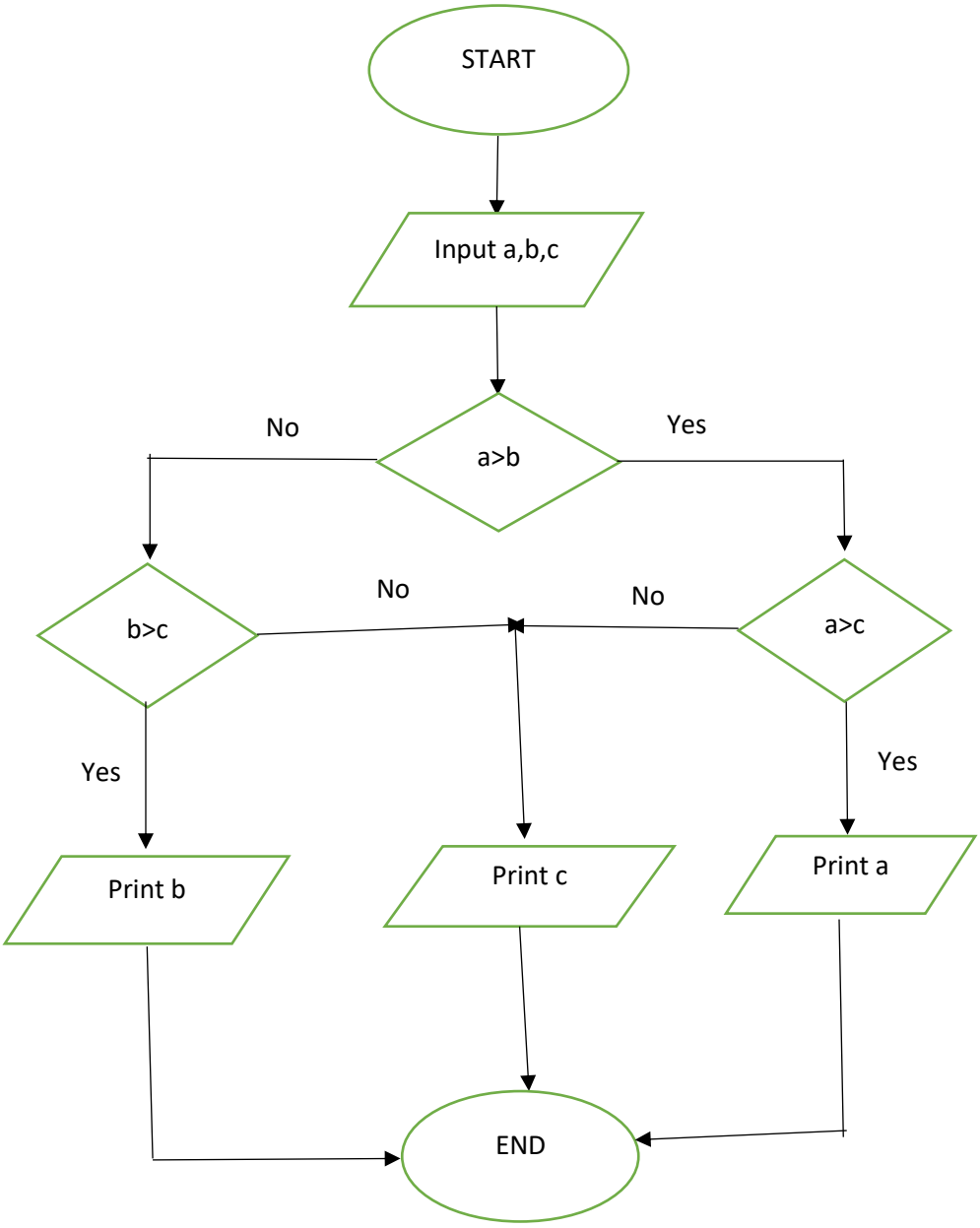
Objective: To create a C program to find the greatest in 3 numbers.

Software: Online GDB

Methodology:

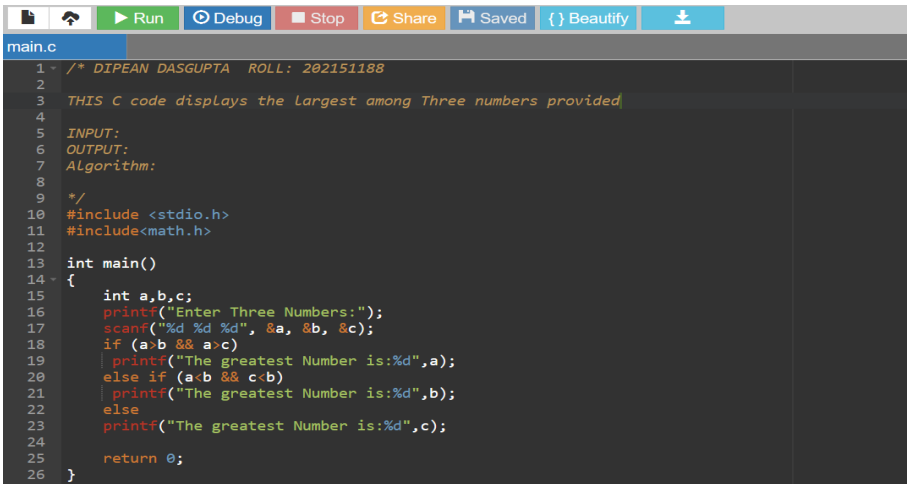
1. Define 3 intergers a,b,c.
2. Printf " Enter Three Numbers".
3. Read the numbers.
4. If a>b and a>c then a is the greatest among a,b,c.
5. If a<b and c<b then b is the greatest among a,b,c.
6. If the above two conditions fail, c will be the greatest among a,b,c.

Flowchart:


START
Input a,b,c
a>b
No
Yes
b>c
a>c
No
No
Yes
Yes
Print b
Print c
Print a
END

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;
}
```

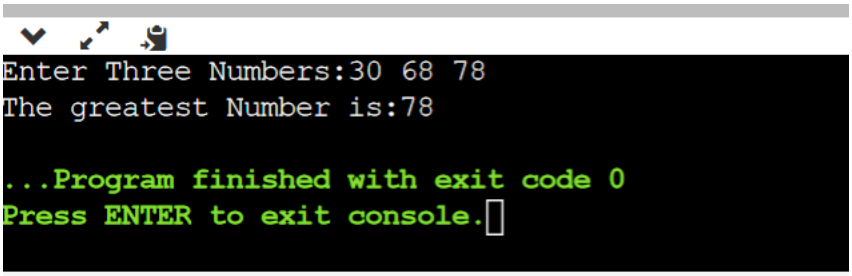


RESULT:

Sample:

Enter Three Numbers: 30 68 78

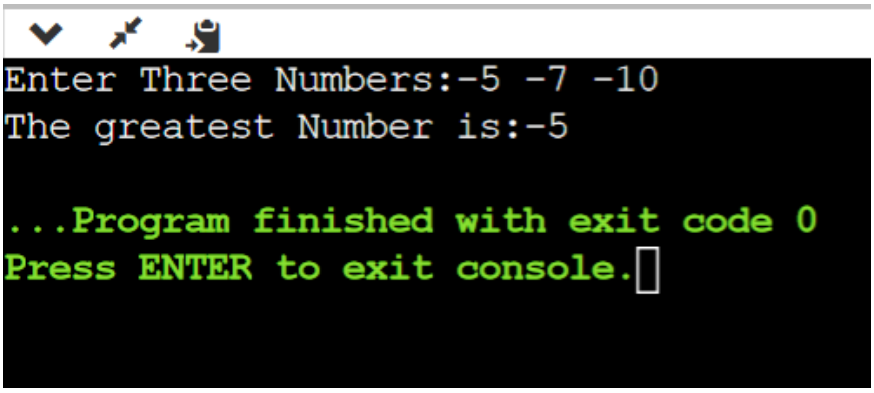
The Greatest Number is: 78



Sample 2:

Enter Three Numbers: -5 -7 -10

The Greatest Number is: -5



Experiment 2(a)

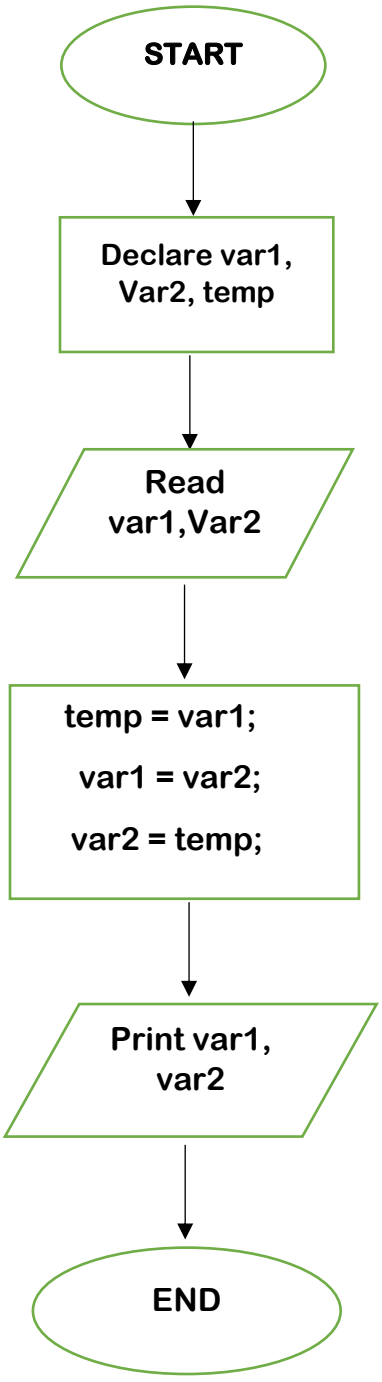
Objective: To create a C program to swap 2 numbers using 3rd variable.

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:


START
Declare var1, Var2, temp
Read var1,Var2
temp = var1;
var1 = var2;
var2 = temp;
Print var1, var2
END

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;

}
```

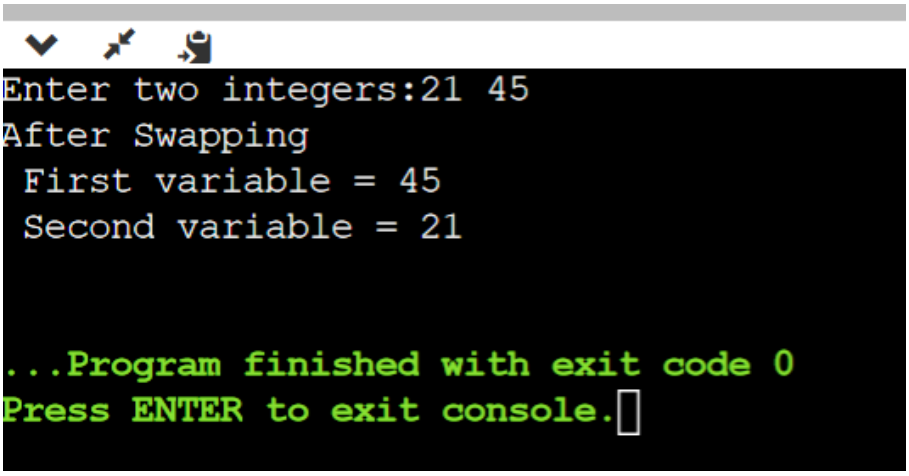
RESULT:

Sample:

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

   First variable: 45

   Second variable: 21



Experiment 2(b)

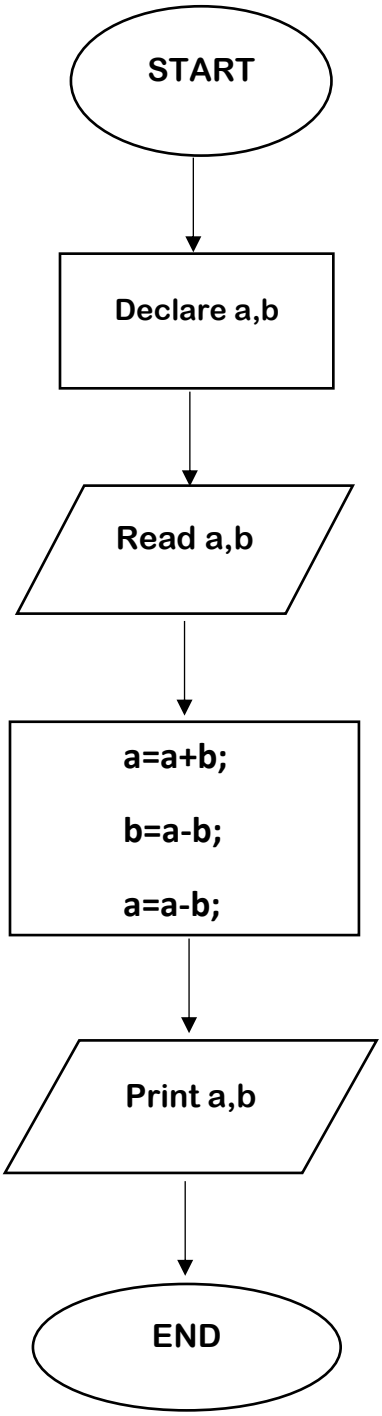
Objective: To create a C program to swap 2 numbers without using 3rd variable.

Software: Online GDB

Methodology:

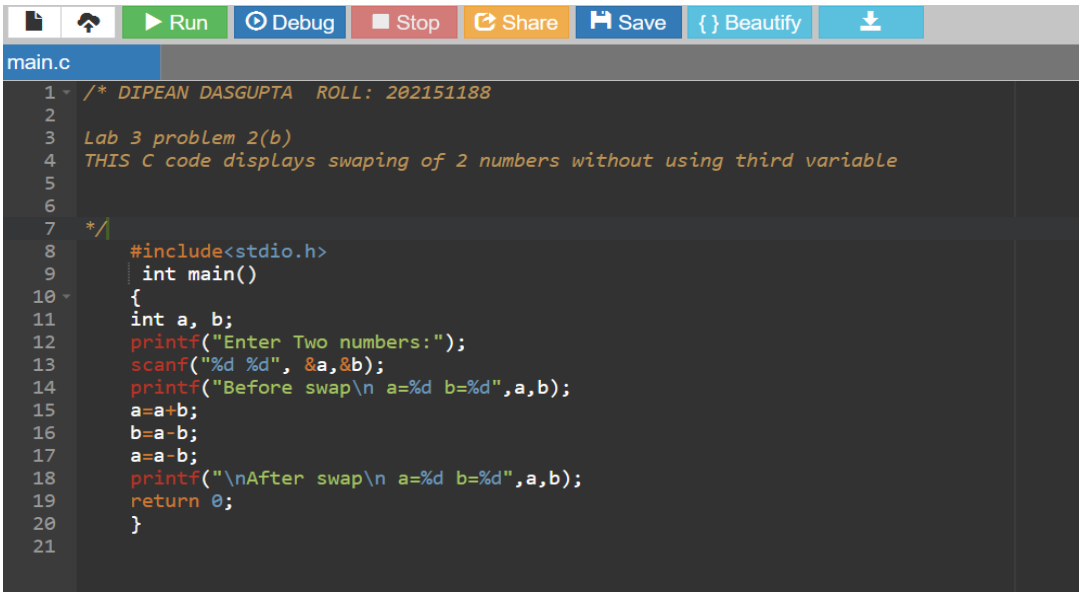
1. Declare two variables a and b as integers.
2. Read two numbers a and b.
3. Do a=a+b;b=a-b; a=a-b.
4. Print a and b.

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;
}
```



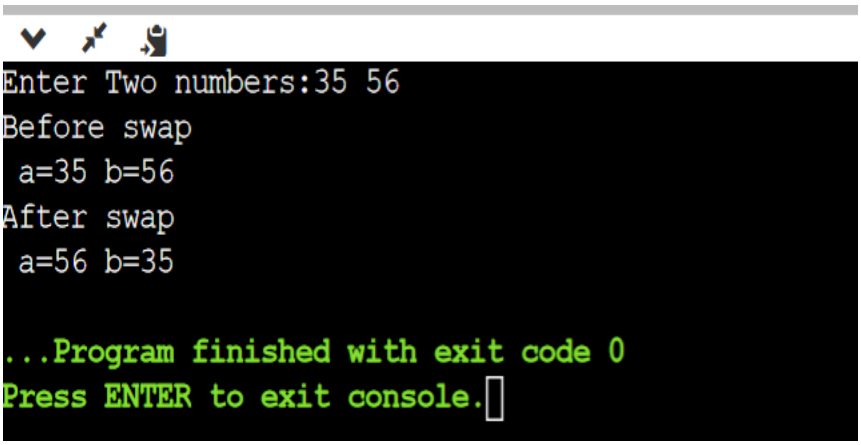
Result:

Sample:

1.Enter Two Numbers: 35, 56

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

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



Experiment 3

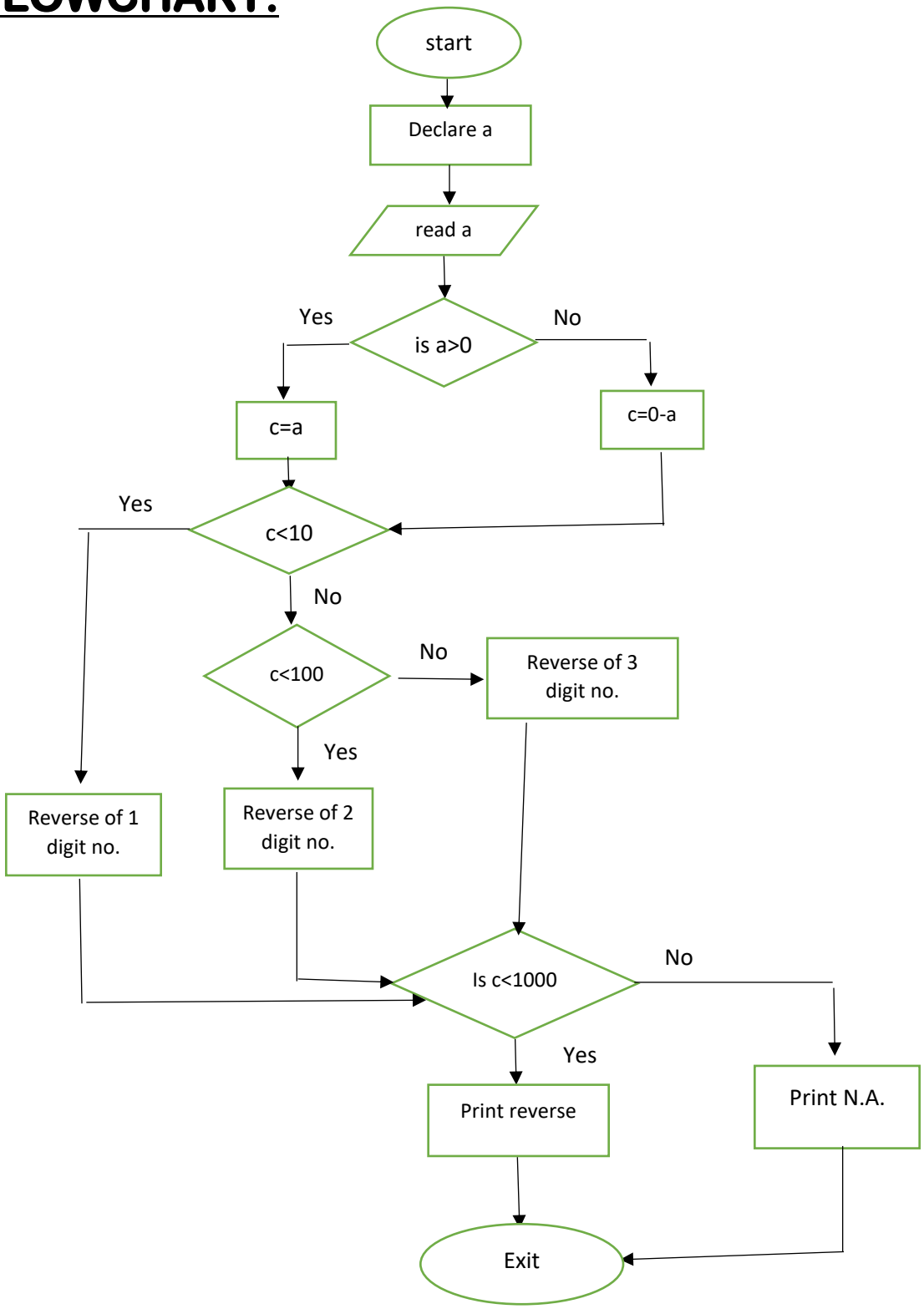
Objective: To create a C program to reverse the digits of a given number.

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:


start
Declare a
read a
is a>0
Yes
No
c=a
c=0-a
c<10
Yes
No
c<100
No
Reverse of 3 digit no.
Yes
Reverse of 1 digit no.
Reverse of 2 digit no.
Is c<1000
No
Yes
Print reverse
Print N.A.
Exit

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;
  }
```

Run | Debug | Stop | Share | Save | { } Beautify

main.c

```c
/* Dipean Dasgupta | Roll: 202151188
Lab 3 experiment 3
This program depicts the code to find the reverse of a 3 digit number
*/

#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;
  }
```

RESULT:

Enter a number: 768

Reversed: 867

```
enter a number
768
867

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