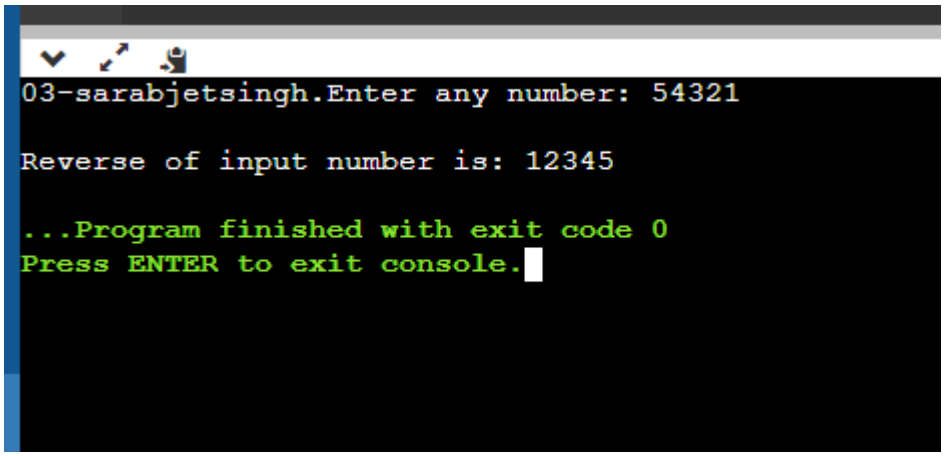
Experiment no – 02(a)

Aim: Write a program using while loop to reverse the digits of a number.

Code:

```
#include <stdio.h>
int main()
{
printf("03-sarabjetsingh.");
   int num, rnum = 0, rem;
   printf("Enter any number: ");
   scanf("%d", &num);
   while (num != 0) {
      rem = num % 10;
      rnum = rnum * 10 + rem;
      num = num / 10;
   }
   printf("\nReverse of input number is: %d", rnum);
   return 0;
}
```

OUTPUT



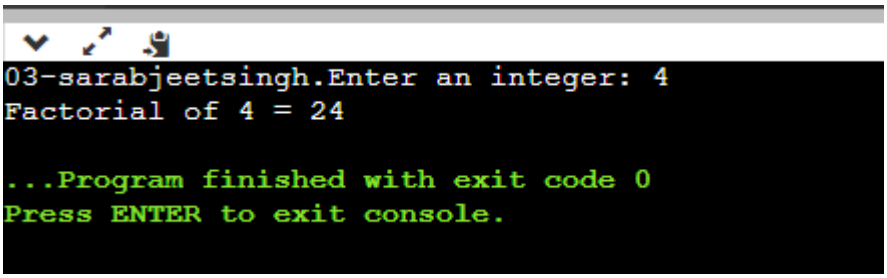
Experiment no – 02(b)

Aim : Write a program to calculate the factorial of a given number.

Code :

```
#include <stdio.h>
int main() {
  {
   printf("03-sarabjeetsingh");}
   int n, i;
   unsigned long long fact = 1;
   printf("Enter an integer: ");
   scanf("%d", &n);

   // shows error if the user enters a negative integer
   if (n < 0)
      printf("Error! Factorial of a negative number doesn't exist.");
   else {
      for (i = 1; i <= n; ++i) {
         fact *= i;
      }
      printf("Factorial of %d = %llu", n, fact);
   }

   return 0;
}
```

Output :-



Experiment no – 02(c)

Aim:- Write a program to find the roots of quadratic equation.

Code :

```
#include<stdio.h>
#include<math.h>
int main()

{
  printf("03-sarabjeetsingh");
   float a,b,c,x1,x2,determinant,realpart,imaginaryPart;
   printf("Enter coefficients a,b and c:");
   scanf("%f%f%f",&a,&b,&c);
   determinant=b*b - 4*a*c;
   if (determinant>0)
{


    x1=(-b + sqrt(determinant))/(2*a);
    x2=(-b - sqrt(determinant))/(2*a);
printf("Roots are real and different.");
printf("\n x1=%.3f",x1);
printf("\n x2=%.3f",x2);
}
else if (determinant==0)
{
printf("Roots are real and same.");
x1=(-b+sqrt(determinant))/(2*a);
printf("\n x1=%.ef",x1);
printf("\nx2=%.3f",x2);
}
else
{
realpart=-b/(2*a);
imaginaryPart=sqrt(determinant)/(2*a);
```

printf("\n Roots are complex and differtent.");

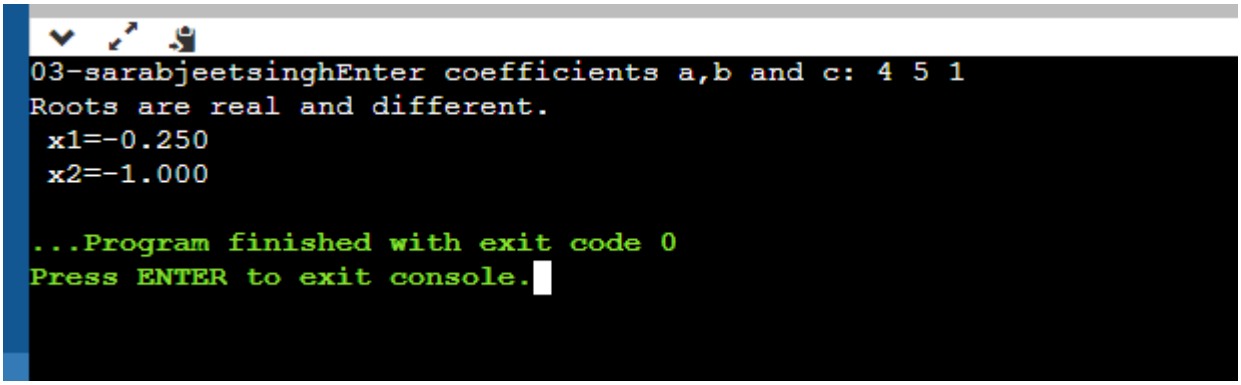
printf("\n x1=%.3f+%.fi",realpart,imaginaryPart);

printf("\nx2 = %.3f-%3fi",realpart,imaginaryPart);

}

return 0;

Output :-



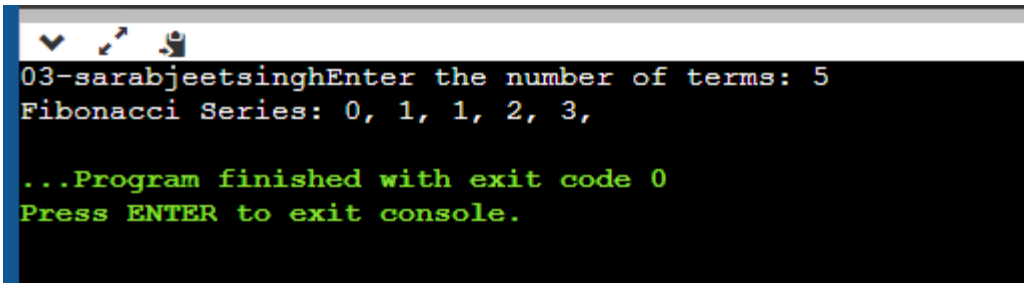
Experiment no – 02(d)

Aim :- Write a program to print the Fibonacci series.

Code :-

```
 #include <stdio.h>
int main() {
printf("03-sarabjeetsingh");
 int i, n;

 // initialize first and second terms
 int t1 = 0, t2 = 1;

 // initialize the next term (3rd term)
 int nextTerm = t1 + t2;

 // get no. of terms from user
 printf("Enter the number of terms: ");
 scanf("%d", &n);

 // print the first two terms t1 and t2
 printf("Fibonacci Series: %d, %d, ", t1, t2);

 // print 3rd to nth terms
 for (i = 3; i <= n; ++i) {
   printf("%d, ", nextTerm);
   t1 = t2;
   t2 = nextTerm;
   nextTerm = t1 + t2;
 }

 return 0;
}
```

Output :-


03-sarabjeetsinghEnter the number of terms: 5
Fibonacci Series: 0, 1, 1, 2, 3,
...Program finished with exit code 0
Press ENTER to exit console.