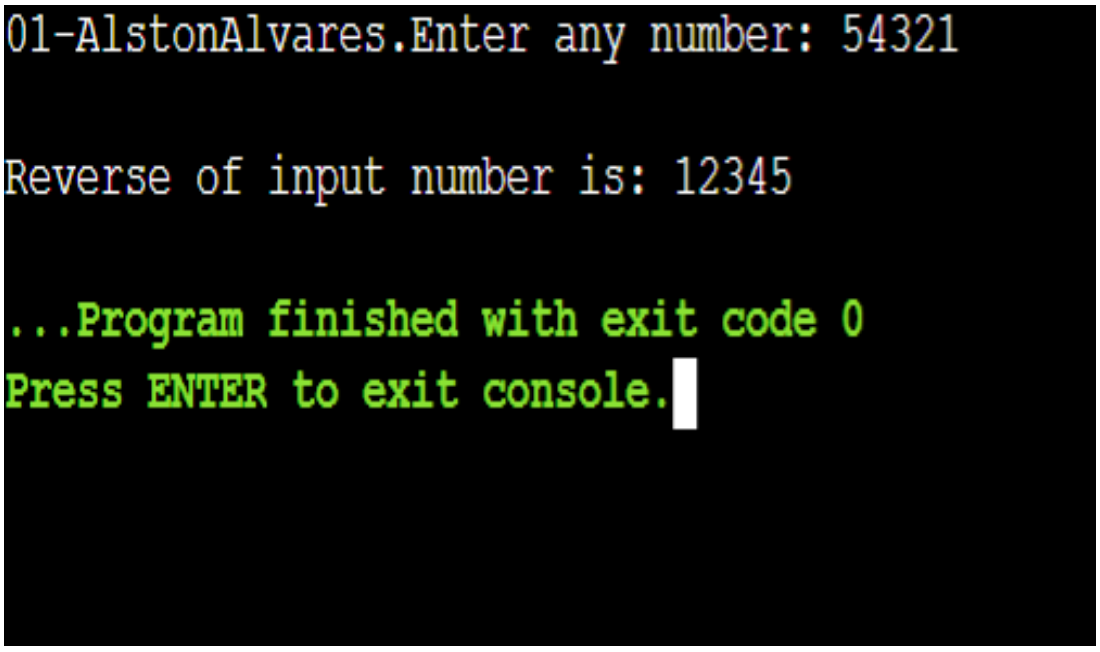
Experiment no – 02(a)

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

Code:

```
#include <stdio.h>
int main()
{ printf("01-AlstonAlvares.");
   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:



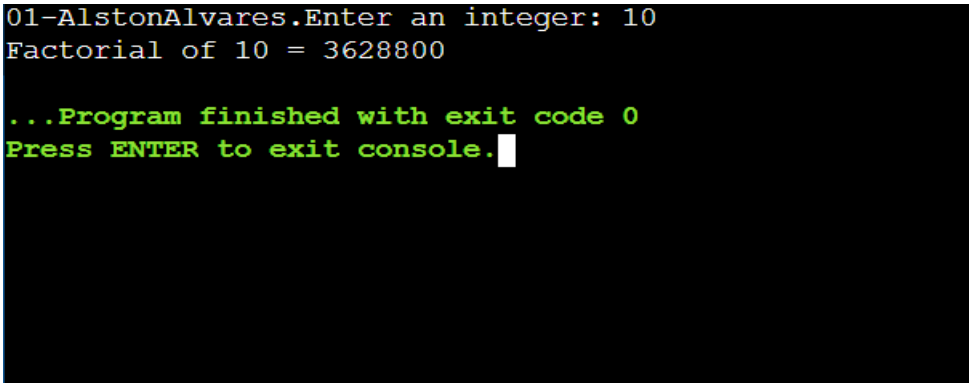
Experiment no – 02(b)

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

Code:

```
#include <stdio.h>
int main() {
  {
   printf("01-AlstonAlvares.");}
   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)

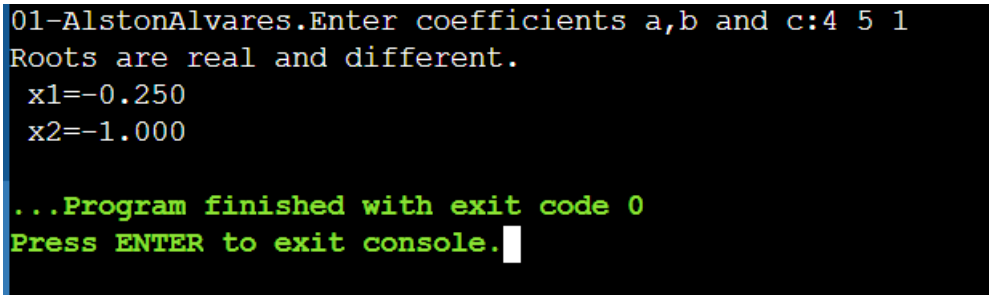
Aim: Write a program to find the roots of quadratic equation.

Code:

```
#include<stdio.h>
#include<math.h>
int main()
{
   printf("01-AlstonAlvares.");
    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:



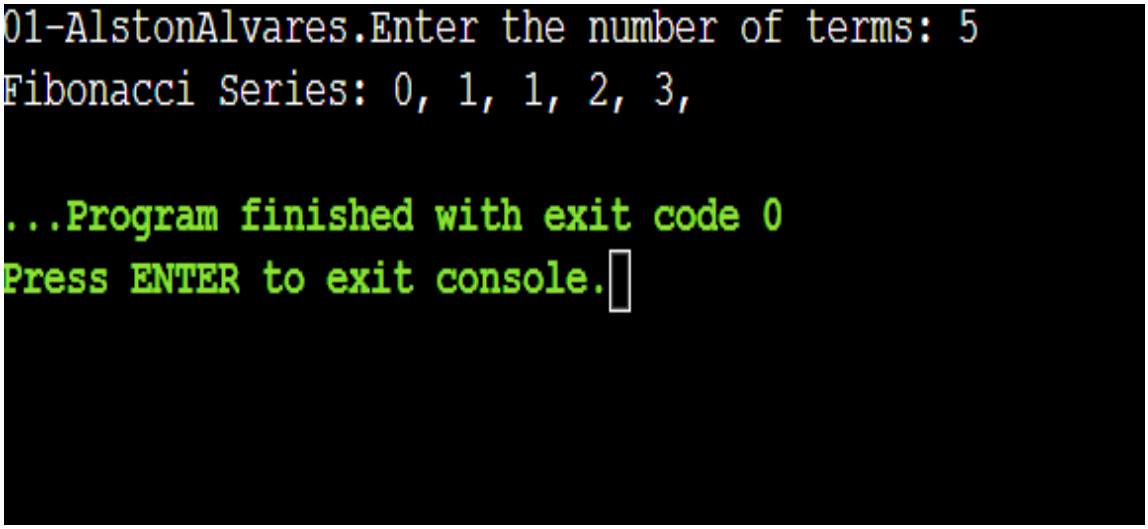
Experiment no – 02(d)

Aim: Write a program to print the Fibonacci series.

Code:

```
#include <stdio.h>
int main() {
printf("01-AlstonAlvares.");
  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:


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