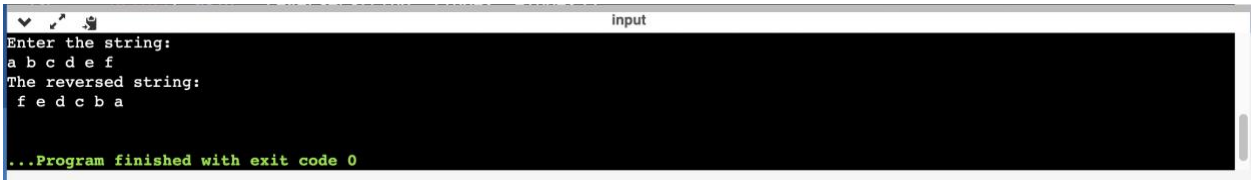
Example 1. A program to reverse a string using bitwise operator

```
#include<stdio.h>
#include<string.h>
#include<conio.h>

char *reverse(char *ptr, int start, int end);
int main()
{
char string[20];
int iIndex=0, eIndex;
char reversed[20];

    printf("Enter the string:\n");
    gets(string);

   eIndex = strlen(string)-1;

   printf("The reversed string:\n");
   printf("%s\n", reverse(string, iIndex, eIndex));

 getch();

 return 0;
 }

// Function to reverse the string
char *reverse(char *ptr, int start, int end) {
while(start<end)
 {
   ptr[start] = ptr[start]^ptr[end];
   ptr[end] = ptr[start]^ptr[end];
   ptr[start] = ptr[start]^ptr[end];
 ++start;
 --end;
 }
 return(ptr); }
```



Example 2. A program to print the binary equivalent of an integer number using bitwise operator.

```
#include<stdio.h>
int main()
{
 int n,i,x;
 printf(" Please, Enter a Number : ");
 scanf("%d",&n);
 printf("\n ");
 for(i=7;i>=0;i--)
 {
  x=n&(1<<i);
  if(x==0)
  printf("0");
  else
  printf("1");
 }
 return 0;
}
```

Example 3: A program to rotate a given number called value, n number of times. If n is positive, rotate it left, otherwise right. It is to be noted that rotation means shifting each bit by one place and recovering the lost bit. For example, in a left shift, each bit is shifted one place to the left and the leftmost bit, which comes out is returned to the rightmost place.

```
#include<stdio.h>
```

```
#define INT_BITS

int leftRotate(int number, unsigned int d);
int rightRotate(int number, unsigned int d);
void printbinary(int num);

int leftRotate(int number, unsigned int d)  {

return ((number << d)|(number >> (INT_BITS - d)));  }


int rightRotate(int number, unsigned int d)  {

return (number >> d)|(number << (INT_BITS - d));  }

void printbinary(int num)  {
  for (int i=7; i>=0; i--)    {
     printf("%d",(num >> i) & 1); }
  printf("\n");  }

int main()  {
  int n, value;
  printf("Enter a number: ");
  scanf("%d\n",&value);
  printf("Enter the number of rotations: ");
  scanf("%d\n",&n);
  printbinary(value);
  // If n is negative
  if (n<0)
  {
  n = -(n);
  value = rightRotate(value, n);
  printf("After right shift, the value is %d \n",value);
  printbinary(value);     }

  // If n is positive
  else if (n>0)
```

```
    {
    value = leftRotate(value, n);
    printf("After left shift, the value is %d \n",value);

    printbinary(value); }

 }
```

Example 5: Write a cpy command to operate like the UNIX cp or MSDOS COPY command that takes its text fi les from the command line as follows.

```
#include<stdio.h>
int main(int argc,char*argv[]){
FILE *fp1,*fp2;
fp1=fopen(argv[1],'r');
fp2=fopen(argv[2],'w');
if (!fp1||!fp2||argc!=3){
    printf("invalid parameter\n");

}
char c;
while((c=getc(fp1)!=EOF)){
    fputc(c,fp2);
}
fclose(fp1);
fclose(fp2);
return 0;

}
```

Example 6: Write a program that prints the largest among three numbers.

```
// Write a program that prints the largest among three number
 #include <stdio.h>
int main() {
   float a,b,c;
     printf("Enter the first value :");
   scanf("%f",&a);
    printf("Enter the second value :");
   scanf("%f",&b);
   printf("Enter the third value :");
    scanf("%f",&c);

    if (a>b && a>c)
        printf("Largest number is :- %f",a);

    else if (b>a && b>c)
      printf("Largest number is :-%f",b);

     else
       printf("Largest number is :-%f",c);
      return 0;
 }
```

Example 7: Write a program in C to check whether a number given by the user is odd or even.

```
#include<stdio.h>
int main(){
   int a;
```

```
printf("Enter the value : ");
scanf("%d",&a);

if (a%2==0)
   printf("NUmber is Even = %d",a);
else
   printf("Number is odd = %d",a);
   return(0);
}
```

Example 8: Write a program in C to check whether a number given by the user is zero, positive, or negative

```
#include<stdio.h>

int main(){
   int a;
printf("Enter the value :");
scanf("%d",&a);
if (a==0)
   printf("Number is Zero = %d",a);

else if (a<0)
   printf("Number is Negative = %d",a);
```

```
else
   printf("Number is Positive = %d",a);

}
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  JUPYTER

&& "/Users/hardikdabhi/Desktop/test_code/"Zero_Negative_Posetive
Enter the value :0
Number is Zero = 0%
hardikdabhi@Hardiks-MacBook-Air test_code % cd "/Users/hardikdabhi/Desktop/test_code/" && gcc Zero_Negative_Posetive.c -o Zero_Negative_Posetive
&& "/Users/hardikdabhi/Desktop/test_code/"Zero_Negative_Posetive
Enter the value :10
Number is Positive = 10%
hardikdabhi@Hardiks-MacBook-Air test_code % cd "/Users/hardikdabhi/Desktop/test_code/" && gcc Zero_Negative_Posetive.c -o Zero_Negative_Posetive
&& "/Users/hardikdabhi/Desktop/test_code/"Zero_Negative_Posetive
Enter the value :-10
Number is Negative = -10%
hardikdabhi@Hardiks-MacBook-Air test_code %
```

Example 9: Write a program in C that prints the grade according to the score secured by a student.

```
#include<stdio.h>
int main(){
   int a;
   printf("Enter your Mark :");
   scanf("%d",&a);
   if (a>=90)printf("Your grade is = A+");
   else if (a>=80)printf("Your grade is = A");
   else if (a>=70)printf("Your grade is = B+");
   else if (a>=60)printf("Your grade is = B");
   else if (a>=50)printf("Your grade is = C+");
   else if (a>=40)printf("Your grade is = C");
   else printf(" FAIL ");
   return(0);
}
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  JUPYTER

abhi/Desktop/test_code/"Student_Grade
Enter your Mark :90
Your grade is = A+%
hardikdabhi@Hardiks-MacBook-Air test_code % cd "/Users/hardikdabhi/Desktop/test_code/" && gcc Student_Grade.c -o Student_Grade && "/Users/hardikd
abhi/Desktop/test_code/"Student_Grade
Enter your Mark :50
Your grade is = C+%
hardikdabhi@Hardiks-MacBook-Air test_code % cd "/Users/hardikdabhi/Desktop/test_code/" && gcc Student_Grade.c -o Student_Grade && "/Users/hardikd
abhi/Desktop/test_code/"Student_Grade
Enter your Mark :30
 FAIL %
hardikdabhi@Hardiks-MacBook-Air test_code %
```

Example 10: Write a program using a switch statement to check whether a number given by the user is odd or even.

```c
#include<stdio.h>
int main(){
   int a;
printf("Enter the value : ");
scanf("%d",&a);
switch(a%2)
{
   case 0:printf("Number is Even = %d",a);
        break;
   case 1:printf("Number is Odd = %d",a);
        break;
   default:printf("Number is Odd = %d",a);
      break;
   }
}
```