

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 ilIndex=0, elIndex;
    char reversed[20];

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

    elIndex = strlen(string)-1;

    printf("The reversed string:\n");
    printf("%s\n", reverse(string, ilIndex, elIndex));

    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];

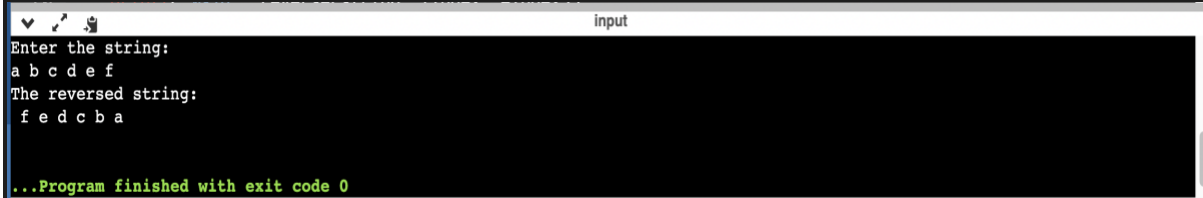
    ++start;

    --end;

}

return(ptr); }

```



```

input
Enter the string:
a b c d e f
The reversed string:
f e d c b a
...Program finished with exit code 0

```

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

```

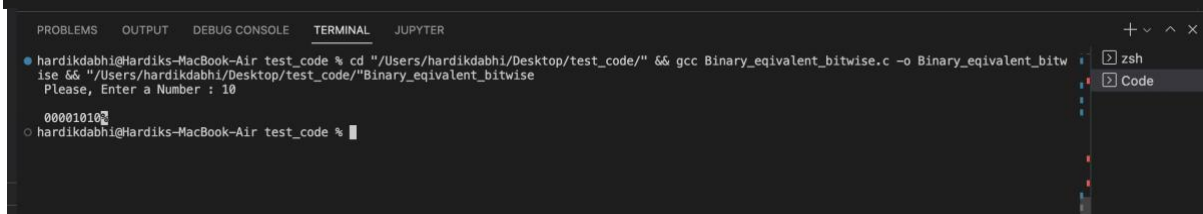
#include<stdio.h>

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;
}

```



```

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hardikdabhi@Hardiks-MacBook-Air test_code % cd "/Users/hardikdabhi/Desktop/test_code/" && gcc Binary_equivalent_bitwise.c -o Binary_equivalent_bitw
ise && "/Users/hardikdabhi/Desktop/test_code/"Binary_equivalent_bitwise
Please, Enter a Number : 10
00001010
hardikdabhi@Hardiks-MacBook-Air test_code %

```

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); }

}

```

```

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● hardikdabhi@Hardiks-MacBook-Air test_code % cd "/Users/hardikdabhi/Desktop/test_code/" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile && "/Use
rs/hardikdabhi/Desktop/test_code/"tempCodeRunnerFile
Enter a number: 10
output
Enter the number of rotations: 00001010
After left shift, the value is 10
00001010
○ hardikdabhi@Hardiks-MacBook-Air test_code % 

```

Example 5: Write a cpy command to operate like the UNIX cp or MSDOS COPY command that takes its text files 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;

}
```

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```
● hardikdabhi@Hardiks-MacBook-Air test_code % cd "/Users/hardikdabhi/Desktop/test_code/" && gcc Largest_number.c -o Largest_number && "/Users/hardi
kdabhi/Desktop/test_code/"Largest_number
Enter the first value :10
Enter the second value :11
Enter the third value :12
Largest number is : -12.000000
○ hardikdabhi@Hardiks-MacBook-Air test_code %
```

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);
}
```

PROBLEMS OUTPUT DEBUG CONSOLE **TERMINAL** JUPYTER

```
● hardikdabhi@Hardiks-MacBook-Air test_code % cd "/Users/hardikdabhi/Desktop/test_code/" && gcc Odd_Even.c -o Odd_Even && "/Users/hardikdabhi/Deskt
op/test_code/"Odd_Even
Enter the value : 10
NUmber is Even = 10
● hardikdabhi@Hardiks-MacBook-Air test_code % cd "/Users/hardikdabhi/Desktop/test_code/" && gcc Odd_Even.c -o Odd_Even && "/Users/hardikdabhi/Deskt
op/test_code/"Odd_Even
Enter the value : 11
Number is odd = 11
○ hardikdabhi@Hardiks-MacBook-Air test_code %
```

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);
}
```

```
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&& "/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(){
```

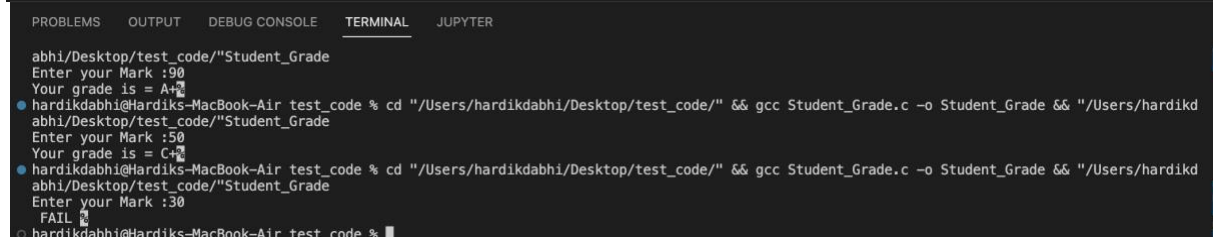
```
int a;

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);
}
```



Example 10: Write a program using a switch statement 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);

    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;

    }

}
```


}

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER

```
● hardikdabhi@Hardiks-MacBook-Air test_code % cd "/Users/hardikdabhi/Desktop/test_code/" && gcc Odd_Even.c -o Odd_Even && "/Users/hardikdabhi/Desktop/test_code/"Odd_Even
Enter the value : 10
Number is Even = 10
● hardikdabhi@Hardiks-MacBook-Air test_code % cd "/Users/hardikdabhi/Desktop/test_code/" && gcc Odd_Even.c -o Odd_Even && "/Users/hardikdabhi/Desktop/test_code/"Odd_Even
Enter the value : 11
Number is odd = 11
○ hardikdabhi@Hardiks-MacBook-Air test_code %
```