

INTRODUCTION TO C PROGRAMMING



BATCH :- 2023 - 2026

BCA (AI & DS)

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1)WAP FOR HELLO WORLD :

```
#include <stdio.h>

int main()
{
    printf("Hello World");

    return 0;
}
```

A screenshot of a terminal window with a black background. The title bar at the top shows standard window controls and the word 'input'. The terminal output displays 'Hello World' in white text. Below it, green text indicates the program finished with exit code 0 and prompts the user to press ENTER to exit the console. A white cursor is visible at the end of the prompt line.

```
Hello World

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

2)WAP TO ADD TWO NUMBER:

```
#include<stdio.h>

int main(){

    int a,b,c;

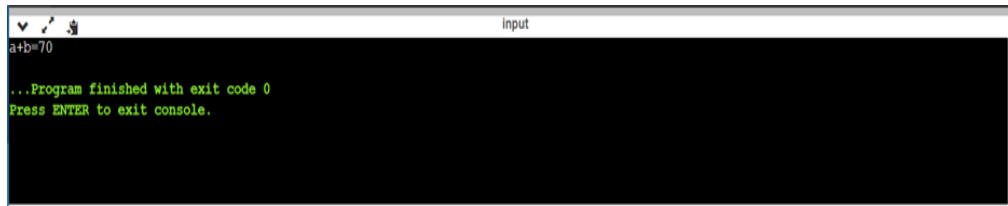
    a=20;

    b=50;

    c=a+b;

    printf("a+b=%d",c);

    return 0;
}
```

A screenshot of a console window titled 'input'. The window has a black background with green text. The text displayed is: 'a+b=70', followed by '...Program finished with exit code 0' and 'Press ENTER to exit console.' on the next line.

```
input
a+b=70
...Program finished with exit code 0
Press ENTER to exit console.
```

3)WAP TO FIND AREA OF CIRCLE:

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

```
int main(){
```

```
    float pie=3.14;
```

```
    int radius=10;
```

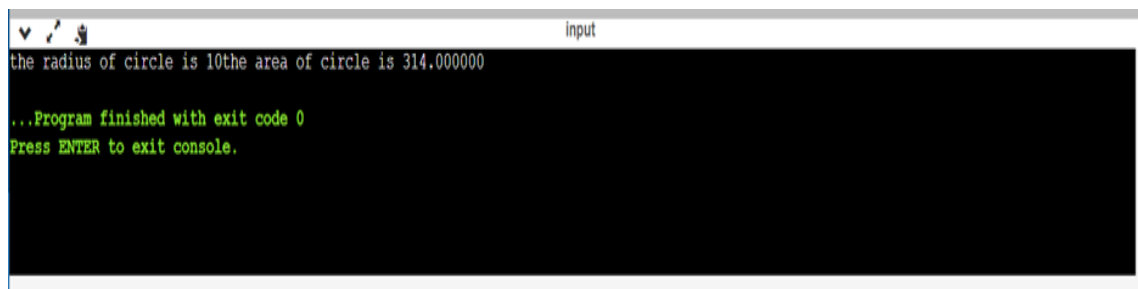
```
    printf("the radius of circle is %d",radius);
```

```
    float area=(float)(pie*radius*radius);
```

```
    printf("the area of circle is %f",area);
```

```
    return 0;
```

```
}
```

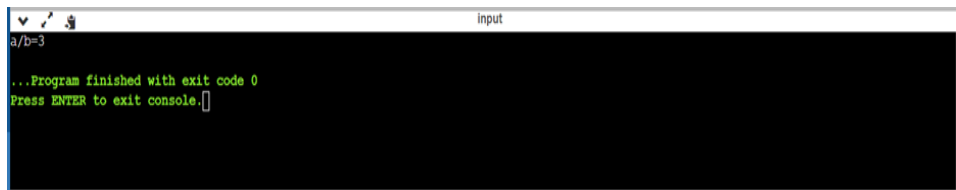
A screenshot of a console window titled 'input'. The window has a black background with green text. The text displayed is: 'the radius of circle is 10the area of circle is 314.000000', followed by '...Program finished with exit code 0' and 'Press ENTER to exit console.' on the next line.

```
input
the radius of circle is 10the area of circle is 314.000000
...Program finished with exit code 0
Press ENTER to exit console.
```

4)WAP TO DIVIDE TWO NUMBER:

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

```
int main(){  
    int a,b,c;  
  
    a= 70;  
  
    b= 20;  
  
    c= a/b;  
  
    printf("a/b=%d",c);  
  
    return 0;  
}
```



The screenshot shows a terminal window with a title bar containing icons and the word "input". The terminal output is as follows:

```
a/b=3  
  
...Program finished with exit code 0  
Press ENTER to exit console.
```

5)WAP TO PRINT ASCII VALUE:

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

```
int main(){  
    char ch;  
  
    printf("enter a character\n");  
  
    scanf("%c",&ch);  
  
    printf("ASCII value of %c is %d\n",ch,ch);  
  
    return 0;  
}
```



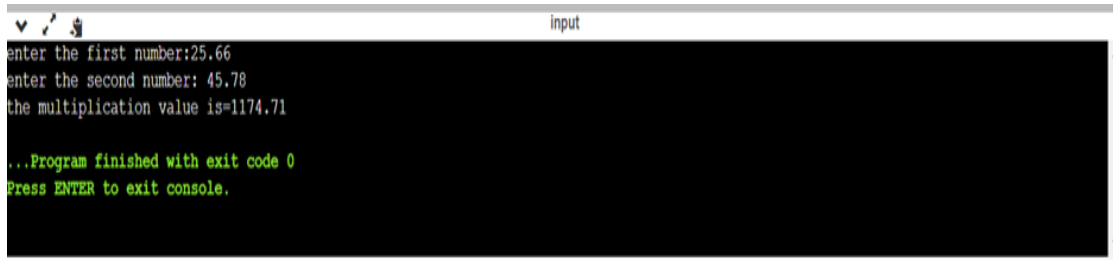
The screenshot shows a terminal window with a title bar containing icons and the word "input". The terminal output is as follows:

```
enter a character  
A  
ASCII value of A is 65  
  
...Program finished with exit code 0  
Press ENTER to exit console.
```

6)WAP TO MULTIPLY FLOATING POINT NUMBERS:

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

```
int main(){  
    float num1,num2,result;  
    printf("enter the first number:");  
    scanf("%f",&num1);  
    printf("enter the second number: ");  
    scanf("%f",&num2);  
    result=num1*num2;  
    printf("the multiplication value is=%.2f",result);  
    return 0;  
}
```



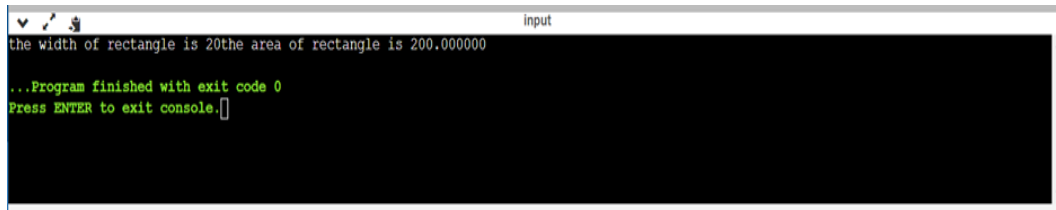
The screenshot shows a terminal window titled 'input'. The program prompts the user to enter two numbers. The first input is 25.66 and the second is 45.78. The program then outputs the multiplication result as 1174.71. At the bottom, it states '...Program finished with exit code 0' and 'Press ENTER to exit console.'

```
input  
enter the first number:25.66  
enter the second number: 45.78  
the multiplication value is=1174.71  
...Program finished with exit code 0  
Press ENTER to exit console.
```

7) WAP TO FIND AREA OF RECTANGLE:

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

```
int main(){  
    int lenght=10;  
    int width=20;  
    printf("the width of rectangle is %d",width);  
    float area=(lenght*width);  
    printf("the area of rectangle is %f",area);  
    return 0;  
}
```

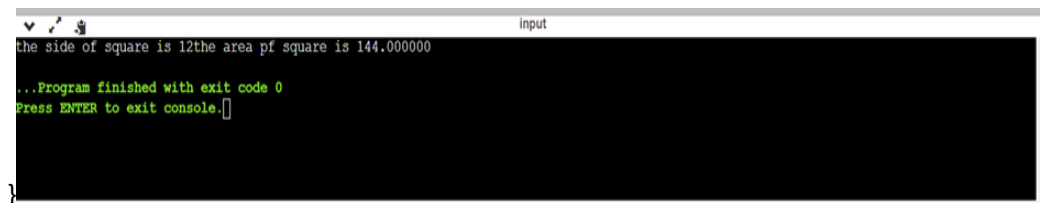


```
the width of rectangle is 20the area of rectangle is 200.000000
...Program finished with exit code 0
Press ENTER to exit console.
```

8)WAP TO FIND THE AREA OF SQUARE:

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

```
int main(){
    int side=12;
    printf("the side of square is %d",side);
    float area=(side*side);
    printf("the area pf square is %f",area);
    return 0;
```



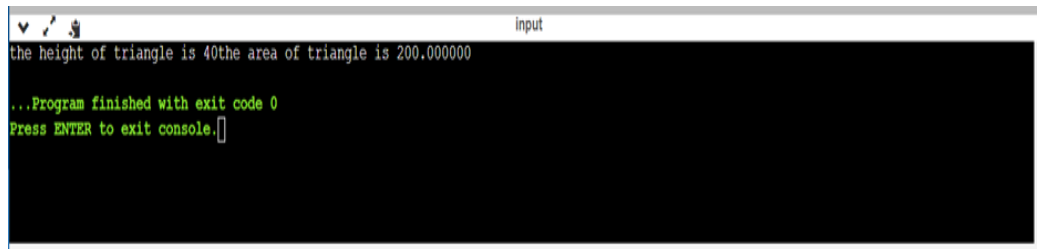
```
the side of square is 12the area pf square is 144.000000
...Program finished with exit code 0
Press ENTER to exit console.
```

9)WAP TO FIND THE AREA OF RIGHT ANGLE TRIANGLE, ISOSCELES TRIANGLE, ANY TRIANGLE WITH THREE SIDES:

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

```
int main()
{
    int base =10;
    int height=40;
    printf("the height of triangle is %d",height);
    float area=0.5*(base*height);
    printf("the area of triangle is %f",area);
```

```
    return 0;
}
```



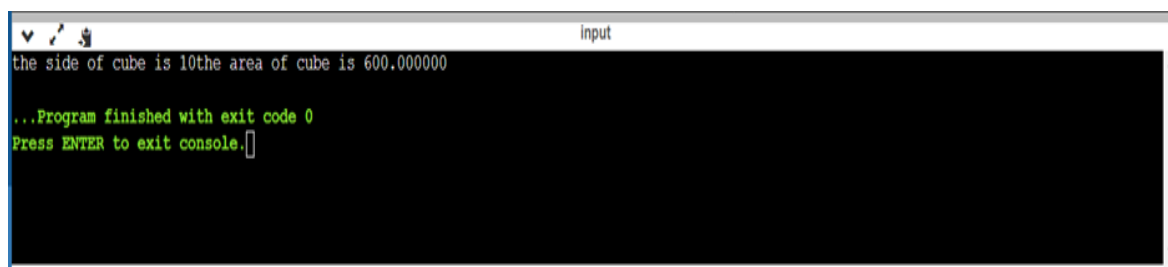
```
Input
the height of triangle is 40the area of triangle is 200.000000
...Program finished with exit code 0
Press ENTER to exit console.
```

10)WAP TO FIND AREA AND VOLUME OF CUBE:

•FOR AREA OF CUBE:-

```
#include <stdio.h>

int main(){
    int side =10;
    printf("the side of cube is %d",side);
    float area=(6*side*side);
    printf("the area of cube is %f",area);
    return 0;
}
```



```
Input
the side of cube is 10the area of cube is 600.000000
...Program finished with exit code 0
Press ENTER to exit console.
```


•FOR VOLUME OF CUBE:-

```
#include<stdio.h>

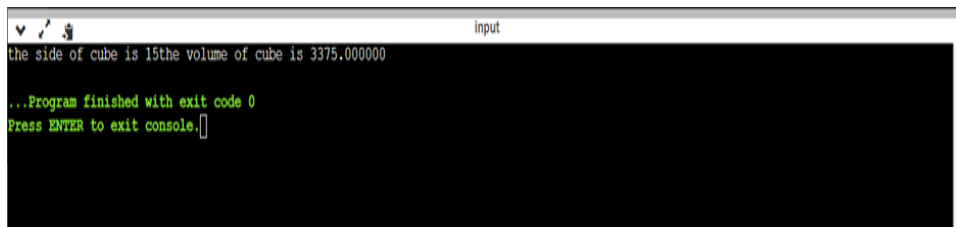
int main()
{
    int side =15;

    printf("the side of cube is %d",side);

    float volume=(side*side*side);

    printf("the volume of cube is %f",volume);

    return 0;
}
```

A screenshot of a console window titled 'input'. The output text is 'the side of cube is 15the volume of cube is 3375.000000'. Below this, it says '...Program finished with exit code 0' and 'Press ENTER to exit console.' with a cursor. The console has a black background and green text.

11)WAP TO FIND THE AREA AND VOLUME OF CUBOID:

•FOR AREA OF CUBOID:-

```
#include <stdio.h>

int main()
{
    int lenght =40;

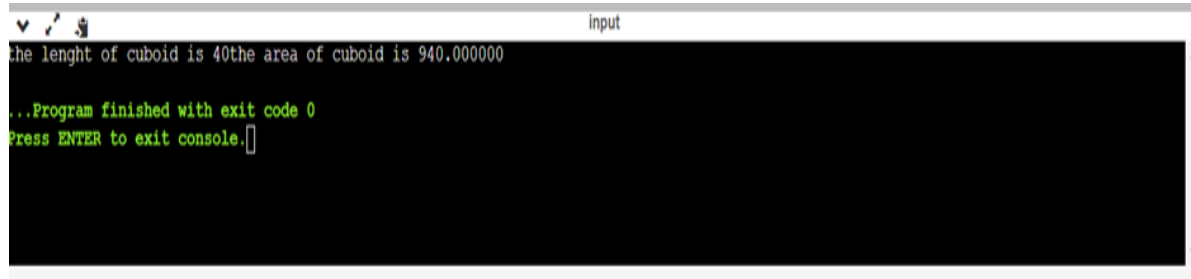
    int breadth=5;

    int height=6;

    printf("the lenght of cuboid is %d",lenght);

    float area =2*(lenght*breadth+breadth*height+lenght*height);
```

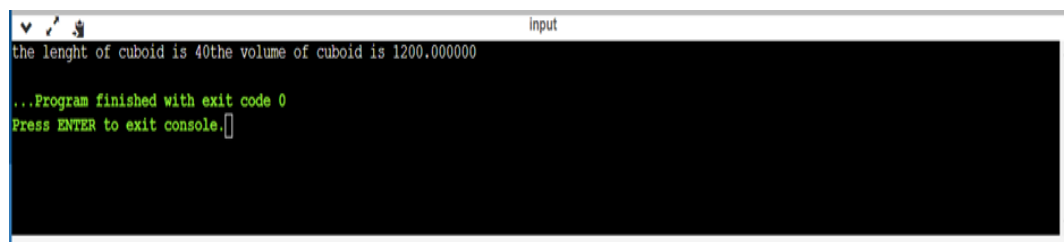
```
printf("the area of cuboid is %f",area);  
  
return 0;  
}
```

A screenshot of a C program's output in a console window titled 'input'. The output shows 'the lenght of cuboid is 40the area of cuboid is 940.000000' on the first line. The second line shows '...Program finished with exit code 0' and 'Press ENTER to exit console.' followed by a cursor. The console has a black background with white text.

```
the lenght of cuboid is 40the area of cuboid is 940.000000  
  
...Program finished with exit code 0  
Press ENTER to exit console.
```

•FOR VOLUME OF CUBOID:-

```
#include <stdio.h>  
  
int main(){  
  
    int lenght =40;  
  
    int breadth=5;  
  
    int height=6;  
  
    printf("the lenght of cuboid is %d",lenght);  
  
    float volume =(lenght*breadth*height);  
  
    printf("the volume of cuboid is %f",volume);  
  
    return 0;  
}
```

A screenshot of a C program's output in a console window titled 'input'. The output shows 'the lenght of cuboid is 40the volume of cuboid is 1200.000000' on the first line. The second line shows '...Program finished with exit code 0' and 'Press ENTER to exit console.' followed by a cursor. The console has a black background with white text.

```
the lenght of cuboid is 40the volume of cuboid is 1200.000000  
  
...Program finished with exit code 0  
Press ENTER to exit console.
```

12)WAP a program to find the area of right angle triangle,isosceles triangle ,3 sided tringle.

```
#include<stdio.h>

int main(){

    int x,y,z;

    printf("enter the lenght and breath of the triangle:");

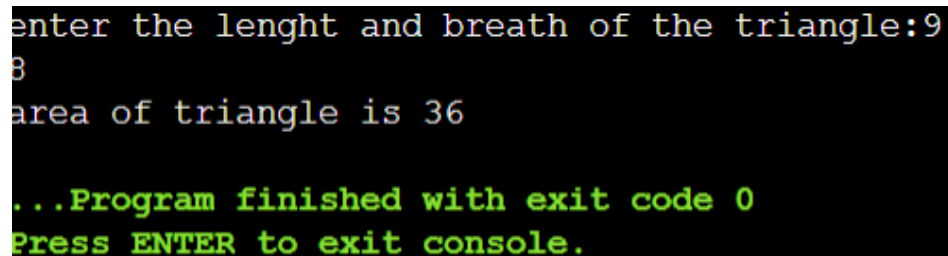
    scanf("%d %d",&x,&y);

    z=(x*y)/2;

    printf("area of triangle is %d",z);

    return 0;

}
```



```
enter the lenght and breath of the triangle:9
3
area of triangle is 36

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

FOR TRAINGLE WITH ANY 3 SIDES:-

```
#include<stdio.h>

#include<math.h>

int main()

{

    int x,y,z;

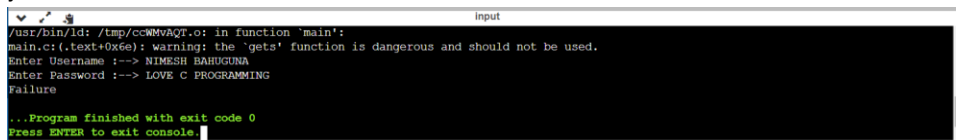
    float s,k,f;
```

```
printf("enter the MEASURE OF SIDES of the triangle:");  
scanf("%d %d %d",&x,&y,&z);  
s=(x+y+z)/2;  
k=((s-x)*(s-y)*(s-z))*s;  
f= pow (k ,0.5);  
printf("area of triangle is %0.3f",f);  
return 0;  
}
```

```
enter the MEASURE OF SIDES of the triangle:8  
8  
9  
area of triangle is 24.000  
  
...Program finished with exit code 0  
Press ENTER to exit console.
```

13)WAP TO VALIDATE THE USER ID AND PASWORD ENTERD BY USER IS CORRECCT OR NOT USING PREDEFINED USERNAME AND PASSWORD.

```
#include <stdio.h>
#include <string.h>
int main()
{
    int flag1 = 0, flag2 = 0;
    char user_name[] = "CodeCrucks";
    char user_password[] = "cc@123";
    char user_name1[20];
    char user_password1[20];
    printf("Enter Username :--> ");
    gets(user_name1);
    printf("Enter Password :--> ");
    gets(user_password1);
    if((strcmp(user_name, user_name1) == 0) && (strcmp(user_password, user_password1) == 0))
    {
        printf("Success");
    }
    else
    {
        printf("Failure");
    }
    return 0;
}
```



```
input
/usr/bin/ld: /tmp/ccMMvAqf.o: in function 'main':
main.c:(.text+0x6e): warning: the 'gets' function is dangerous and should not be used.
Enter Username :--> NIMESH BAHUGUNA
Enter Password :--> LOVE C PROGRAMMING
Failure
...Program finished with exit code 0
Press ENTER to exit console.
```

14)

14) WAP TO FIND THE LARGEST NUMBER USING LOGICAL AND OPERATOR.

```
#include <stdio.h>

int main()
{
    int a, b, c;

    printf("Enter three numbers: \na: ");
    scanf("%d", &a);
    printf("b: ");
    scanf("%d", &b);
    printf("c: ");
    scanf("%d", &c);

    if (a > b && a > c)
        printf("Biggest number is %d", a);
    if (b > a && b > c)
        printf("Biggest number is %d", b);
    if (c > a && c > b)
        printf("Biggest number is %d", c);

    return 0;
}
```



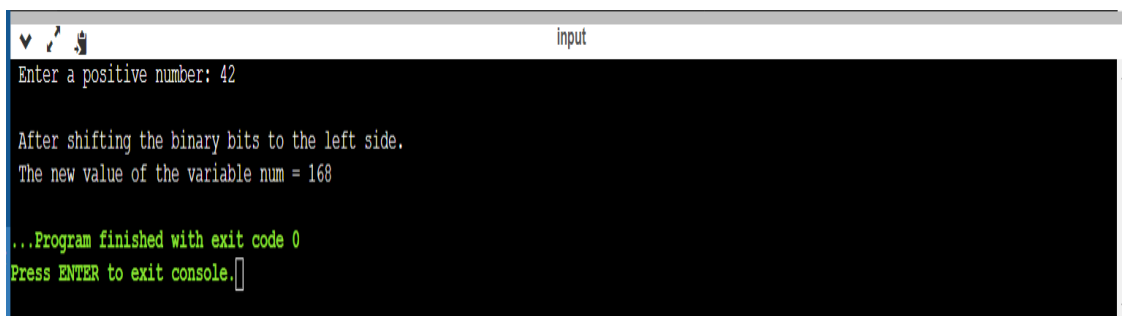
```
input
Enter three numbers:
a: 20
b: 13
c: 50
Biggest number is 50

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

15)WAP TO INPUT THE POSITIVE NUMBER FROM THE USER TO PERFORM THE LEFT SHIFT OPERATOR.

```
#include <stdio.h>

int main ()
{
// declare local variable
int num;
printf (" Enter a positive number: ");
scanf ("%d", &num);
// use left shift operator to shift the bits
num = (num << 2); // It shifts two bits at the left side
printf (" \n After shifting the binary bits to the left side. ");
printf (" \n The new value of the variable num = %d", num);
return 0;
}
```



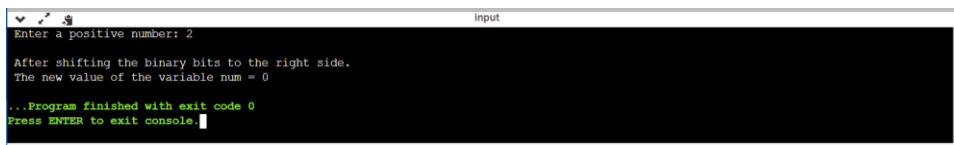
```
input
Enter a positive number: 42

After shifting the binary bits to the left side.
The new value of the variable num = 168

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

16)WAP TO INPUT THE POSITIVE NUMBER FOM THE USER TO PERFORM THE RIGHT SHIFT.

```
#include <stdio.h>
int main ()
{
// declare local variable
int num;
printf (" Enter a positive number: ");
scanf ("%d", &num);
// use right shift operator to shift the bits
num = (num >> 2); // It shifts two bits at the right side
printf (" \n After shifting the binary bits to the right side. ");
printf (" \n The new value of the variable num = %d", num);
return 0;
}
```



```
input
Enter a positive number: 2
After shifting the binary bits to the right side.
The new value of the variable num = 0
...Program finished with exit code 0
Press ENTER to exit console.
```


17) WAP TO PERFORM PRE INCREMENT AND PRE DECREMENT OPERATOR ON TWO INTEGERS AND PRINT BOTH ORIGINAL AND UPDATED VALUE.

PRE INCREMENT :-

```
#include <stdio.h>

int main() {

    int x;

    printf("enter the digit:");

    scanf("%d",&x);

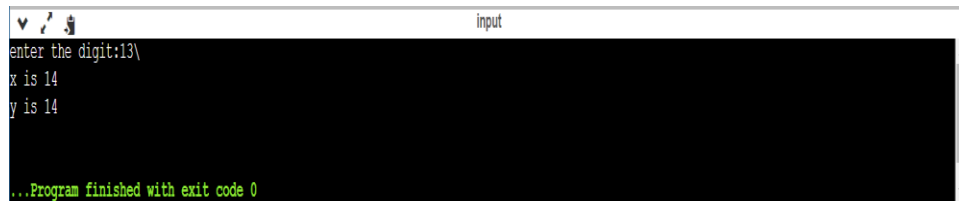
    int y = ++x;

    printf("x is %d\n", x);

    printf("y is %d\n", y);

    return 0;

}
```



```
input
enter the digit:13\
x is 14
y is 14
...Program finished with exit code 0
```

PRE DECREMENT:-

PRE DECREMENT:-

```
#include <stdio.h>

int main() {

    int x;

    printf("enter the digit:");

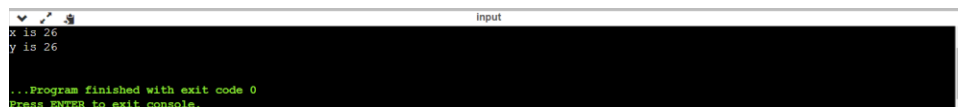
    scanf("%d",&x);

    int y = --x;

    printf("x is %d\n", x);

    printf("y is %d\n", y);

    return 0; }
```



```
input
x is 26
y is 26
...Program finished with exit code 0
Press ENTER to exit console.
```

18)WAP TO PERFORM POST INCREMENT AND POST DECREMENT OPERATOR ON TWO INTEGERS AND PRINT BOTH ORIGINAL AND UPDATED VALUE.

POST INCREMENT :-

```
#include <stdio.h>

int main() {

    int x;

    printf("enter the digit:");

    scanf("%d",&x);

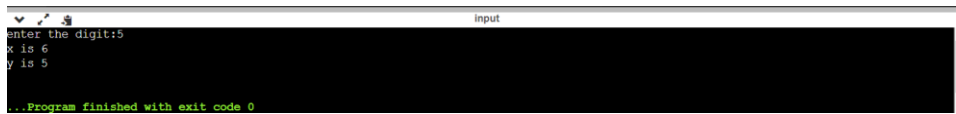
    int y = x++;

    printf("x is %d\n", x);

    printf("y is %d\n", y);

}
```

```
return 0;
}
```

A screenshot of a terminal window titled 'input'. The output shows: 'enter the digit:5', 'x is 6', 'y is 5', and at the bottom, '...Program finished with exit code 0'.

POST DECREMENT :-

```
#include <stdio.h>

int main() {

    int x;

    printf("enter the digit:");

    scanf("%d",&x);

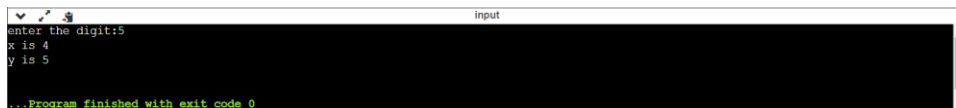
    int y = x--;

    printf("x is %d\n", x);

    printf("y is %d\n", y);

    return 0;

}
```

A screenshot of a terminal window titled 'input'. The output shows: 'enter the digit:5', 'x is 4', 'y is 5', and at the bottom, '...Program finished with exit code 0'.

19)WAP FOR AN INTEGER NUMBER AND TO CHECK WHETHER IT IS DIVISIBLE BY 9 OR 7 USING OR OPERATOR.

```
#include<stdio.h>

int main(){

    int x,y;

    printf("enter the number:");

    scanf("%d",&x);

    if((x% 9 == 0) || (x % 7 == 0)){

        printf("divisible");}

}
```

```
input
enter the number:9
divisible

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

20)WAP TO IDENTIFY GENDER IN SINGLE CHARACTER AND PRINT FULL GENDER (EX: IF INPUT IS M OR "m" -- IT SHOULD PRINT "MALE").

```
#include <stdio.h>

int main(){
    char gender;
    printf("Enter gender (M/m: ");
    scanf("%c",&gender);
    switch(gender){
        case 'M':
        case 'm':
            printf("Male.");
    }
    return 0;
}
```

A screenshot of a terminal window titled 'input'. The terminal has a black background with white text. The first line shows the prompt 'Enter gender (M/m: M' followed by the user input 'M'. The second line shows the output 'Male.'. The third line shows the message '...Program finished with exit code 0' in green. The fourth line shows the prompt 'Press ENTER to exit console.' in green, with a white cursor at the end of the line.

```
input
Enter gender (M/m: M
Male.
...Program finished with exit code 0
Press ENTER to exit console.
```

21)WAP TO SWAP TWO NUMBER WITHOUT USING THIRD VARIABLE

```
#include<stdio.h>
int main()
{
int a=10, b=20;
printf("Before swap a=%d b=%d",a,b);
a=a+b;//a=30 (10+20)
b=a-b;//b=10 (30-20)
a=a-b;//a=20 (30-10)
printf("\nAfter swap a=%d b=%d",a,b);
return 0;
}
```

```
Before swap a=10 b=20
After swap a=20 b=10

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

22)WAP swap two numbers using third variable .

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

```

double first, second, temp;
printf("Enter first number: ");
scanf("%lf", &first);
printf("Enter second number: ");
scanf("%lf", &second);

// value of first is assigned to temp
temp = first;

// value of second is assigned to first
first = second;

// value of temp (initial value of first) is assigned to second
second = temp;

// %.2lf displays number up to 2 decimal points
printf("\nAfter swapping, first number = %.2lf\n", first);
printf("After swapping, second number = %.2lf", second);
return 0;

```

```

Enter first number: 2
Enter second number: 8

After swapping, first number = 8.00
After swapping, second number = 2.00

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

```

23)WAP TO SWAP THREE NUMBERS USING THIRD VARIABLE.

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

```
int main()
```

```
{
```

```
int first_number, second_number, third_number, temp;
printf("Enter first number: "); //allow user to add first
number
scanf("%d",&first_number);
printf("Enter second number: "); //allow user to add
second number
scanf("%d",&second_number);
printf("Enter third number: "); //allow user to add third
number
scanf("%d",&third_number);
printf("Before swapping \n");
printf("First number: %d \n", first_number);
printf("Second number: %d \n", second_number);
printf("Third number: %d \n", third_number);
temp = first_number; //first number is assigned to temp
first_number = second_number; //second number is
assigned to first number
second_number = third_number; //third number is
assigned to second number
```



```
third_number = temp; //first number is assigned to third
number
```

```
printf("After swapping \n");
```

```
printf("First number: %d \n", first_number);
```

```
printf("Second number: %d \n", second_number);
```

```
printf("Third number: %d \n", third_number);
```

```
return 0;
```

```
After swapping
First number: 6
Second number: 9
Third number: 8

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

24)WAP to print all natural number in reverse from n to 1.

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

```
int main()
```

```
{
```

```
    int x,i;
```

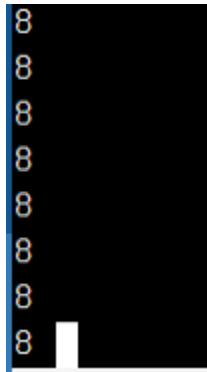
```
    printf("enter the starting value:");
```

```
    scanf("%d",&x);
```

```

for(i=x; i>=1; i--)
    printf("%d \n",x);
return 0;
}

```



25)WAP to print all alphabets between A to Z.

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

```
int main(){
```

```
    int i;
```

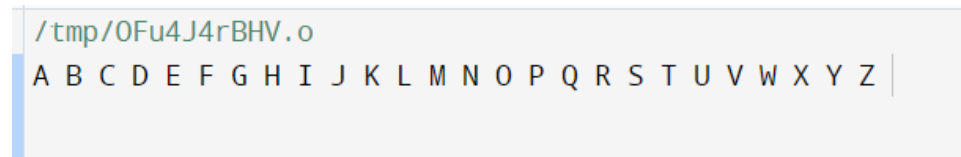
```
    for (i=1;i<=26; i++){
```

```
        printf("%c ",i+64);
```

```
    }
```

```
    return 0;
```

```
}
```



26)WAP to write all antural number from 1 to n.

```
#include <stdio.h>

int main(){
    int i,x;
    printf("enter the ending number:");
    scanf("%d",&x);
    for (i=1;i<=x; i++){
        printf("%d ",i);
    }
    return 0;
}
```

```
/tmp/0Fu4J4rBHV.o
enter the ending number:9
1 2 3 4 5 6 7 8 9 |
```

27)WAP to print all the even numbers between 1 to100.

```
#include <stdio.h>

int main(){
    int i;
    for (i=1;i<=100; i++){
        if (i%2==0){
```

```

        printf("%d ",i);
    }
}
return 0;
}

```

/tmp/0Fu4J4rBHV.o

```

2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60
62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100 |

```

28)WAP TO PRINT ALL ODD BETWEEN 1 TO 100.

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

```
int main(){
```

```
    int i;
```

```
    for (i=1;i<=100; i++){
```

```
        if (i%2==1)
```

```
        {
```

```
            printf("%d ",i);
```

```
        }
```

```
    }
```

```
    return 0;
```

```
}
```

```
/tmp/0Fu4J4rBHV.o  
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59  
61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91 93 95 97 99 |
```

29)WAP TO GET THE SUM OF ALL THE BETWEEN 1 TO N.

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

```
int main(){
```

```
    int i,x;
```

```
    int sum =0;
```

```
    printf("enter the last digit ");
```

```
    scanf("%d",&x);
```

```
    for (i=1; i<=x; i++){
```

```
        sum+=i;}
```

```
    printf("the sum is %d",sum);
```

```
    return 0;
```

```
}
```

```
/tmp/0Fu4J4rBHV.o  
enter the last digit 5  
the sum is 15|
```

30)WAP to get sum of all the even numbers from 1 to n.

```
#include <stdio.h>

int main(){
    int i,x;
    int sum =0;
    printf("enter the last digit ");
    scanf("%d",&x);
    for (i=1; i<=x; i++){
        if(i%2==0){
            sum+=i;
        }
    }
    printf("the sum is %d",sum);

    return 0;
}
```

```
/tmp/0Fu4J4rBHV.o
enter the last digit 6
the sum is 12
```

31)WAP to get the sum of all odds between 1 to n.

```
#include <stdio.h>

int main(){
```

```
int i,x;
int sum =0;
printf("enter the last digit ");
scanf("%d",&x);
for (i=1; i<=x; i++){
    if(i%2==1){
        sum+=i;
    }
}
printf("the sum is %d",sum);

return 0;
}
```

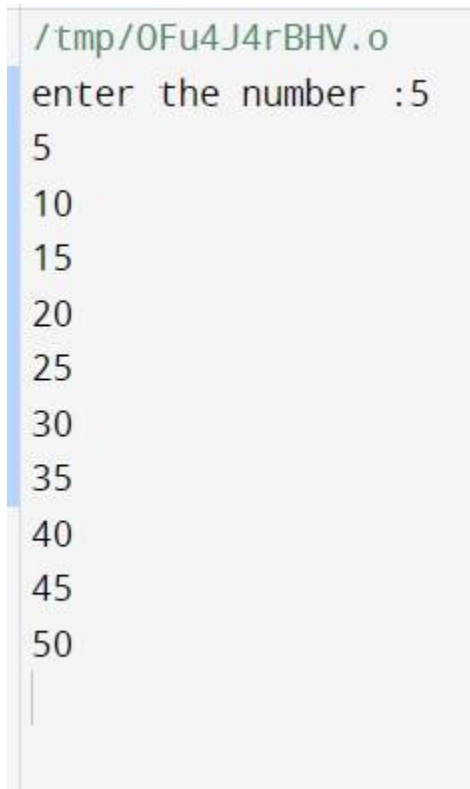
```
/tmp/0Fu4J4rBHV.o
enter the last digit 7
the sum is 16
```

32)WAP TO PRINT THE MULTIPLICATION OF ANY ENTERD NUMBER.

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

```
int main(){
```

```
int x,i;
printf("enter the number :");
scanf("%d",&x);
for(i=1; i<=10;i++){
    printf("%d \n",i*x);
}
```



```
/tmp/0Fu4J4rBHV.o
enter the number :5
5
10
15
20
25
30
35
40
45
50
|
```

33)WAP TO GET THE NUMBER OF DIGITS IN NUMBER ENTERED.

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



```
int main(){
int count = 0;
int x;
printf("enter the num:");
scanf("%d",&x);

    // Remove last digit from number
    // till number is 0
    while (x != 0) {

        // Increment count
        count++;
        x /= 10;
    }
    printf("total is:%d",count);
    // return the count of digit
    return 0;
}
```

```
/tmp/yBQa41BTum.o  
enter the num:10  
total is:2
```

33)WAP TO GET THE FIRST AND THE LAST DIGIT OF NUMBER.

FOR FIRST DIGIT:

```
#include <stdio.h>  
  
int main()  
{  
    int n, lastDigit;  
  
    /* Input number from user */  
    printf("Enter any number: ");  
    scanf("%d", &n);  
  
    /* Get the last digit */  
    lastDigit = n % 10;  
  
    printf("Last digit = %d", lastDigit);  
  
    return 0;  
}
```

```
/tmp/kfTYfj0Mu6.o  
Enter any number: 4648  
Last digit = 8
```

FOR FIRST DIGIT:

```
#include <stdio.h>  
  
int main()  
{  
    int n, first;
```

```

/* Input number from user */
printf("Enter any number: ");
scanf("%d", &n);

first = n;

/* Remove last digit from number till only one digit is left */
while(first >= 10)
{
    first = first / 10;
}

printf("First digit = %d", first);

return 0;
}

```

```

/tmp/kfTYfj0Mu6.o
Enter any number: 437218
First digit = 4

```

34)WAP TO GET THE SUM O FIRST AND LAST DIGIT OF ENETRED NUMBER.

```

#include <stdio.h>

int main()
{
    int n, first,ld;

    /* Input number from user */
    printf("Enter any number: ");
    scanf("%d", &n);

```

```

first = n;

/* Remove last digit from number till only one digit is left */
while(first >= 10)
{
    first = first / 10;
}

printf("First digit = %d \n", first);
ld = n % 10;
printf("lastDigit=%d\n",ld);
printf("the sum is%d",first+ld);

return 0;
}

```

```

/tmp/kfTYfj0Mu6.o
Enter any number: 328755647
First digit = 3
lastDigit=7
the sum is10

```

35)WAP TO SWAP FIRST AND LAST DIGIT OF NUMBER .

```

int main()
{
    int n,firstDigit, lastDigit,digits, swappedNum;
    printf("Enter number = ");
    scanf("%d", &n);

```

```

//Find last digit of a number
lastDigit = n % 10;
//Find total number of digits - 1
digits = (int)log10(n);
//Find first digit
firstDigit = (int) (n / pow(10, digits));
swappedNum = lastDigit;
swappedNum *= (int) round(pow(10, digits));
swappedNum += n % ((int)round(pow(10, digits)));
swappedNum -= lastDigit;
swappedNum += firstDigit;
printf("Number after swapping first and last digit: %d", swappedNum);
return 0;
}

```

```

/tmp/yBQa41BTum.o
Enter number = 3547
Number after swapping first and last digit: 7543

```

36)WAP TO GET THE SUM OF DIGITS OF ENTERED NUMBER.

```

#include <stdio.h>

/* Function to get sum of digits */

int main()
{
    int n;

    printf("enter the number:");

    scanf("%d",&n);

    int sum = 0;

    while (n != 0) {

        sum = sum + n % 10;
    }
}

```

```

        n = n / 10;
    }

    printf("the sum is%d",sum);

    return 0;
}

```

```

/tmp/yBQa41BTum.o
enter th nmbre:5643
the sum is18|

```

37)WAP TO GET THE PRODUCT OF DIGITS OF ENTERED NUMBER.

```

#include<stdio.h>
int main()
{
    int num, rem, prod = 1;
    printf("Enter a number: ");
    scanf("%d", &num);
    while(num != 0)
    {
        rem = num % 10; // get the last-digit
        prod *= rem; // calculate product of digits
        num /= 10; // remove the last digit
    }
    printf("%d", prod);
    return 0;
}

```

```

/tmp/yBQa41BTum.o
Enter a number: 1234
24|

```

38)WAP TO ENTER A NUMBER AND PRINT ITS REVERSE.

```

#include <stdio.h>

int main()
{
    int n, r = 0;

    printf("Enter a number to reverse\n");
    scanf("%d", &n);

```

```

while (n != 0)
{
    r = r * 10;
    r = r + n%10;
    n = n/10;
}

printf("Reverse of the number = %d\n", r);

return 0;
}

```

```

/tmp/yBQa41BTum.o
Enter a number to reverse
123456
Reverse of the number = 654321
|

```

```

39) #include <stdio.h>
int main() {
    int n, reversed = 0, remainder, original;
    printf("Enter an integer: ");
    scanf("%d", &n);
    original = n;

    // reversed integer is stored in reversed variable
    while (n != 0) {
        remainder = n % 10;
        reversed = reversed * 10 + remainder;
        n /= 10;
    }

    // palindrome if original and reversed are equal
    if (original == reversed)
        printf("%d is a palindrome.", original);
    else
        printf("%d is not a palindrome.", original);

    return 0;
}

```

```

/tmp/yBQa41BTum.o
Enter an integer: 647589
647589 is not a palindrome.
|
}

```

40)WAP TO GET THE FRAQUENCY OF EACH DIGIT IN NUMBER.

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

```
#include <stdlib.h>
```

```
int main()
```

```
{
```

```
    long num;
```

```
    int digit,rem,count=0;
```

```
    printf("Enter the Number: ");
```

```
    scanf("%ld",&num);
```

```
    printf("Enter the digit to be counted:");
```

```
    scanf("%d",&digit);
```

```
    while(num!=0)
```

```
    {
```

```
        rem=num%10;
```

```
        if(rem==digit)
```

```
            count++;
```

```
        num=num/10;
```

```
    }
```



```
printf("The digit %d present %d times ",digit,count);
```

```
    /tmp/UpjkFuaLyW.o  
    Enter the Number: 336582  
    Enter the digit to be counted:2  
    The digit 2 present 1 times  
}
```

41)WAP TO GET A NUMBER AND PRINT IT IN WORDS.

```
#include <stdio.h>  
#include <math.h>  
int main()  
{  
    int data, num = 0, digits;  
    //Ask the user to enter the number  
    printf("Enter any number to print in words: ");  
    scanf("%d", &data);  
    //Get all digits of entered number  
    digits = (int) log10(data);  
    //Store reverse of data in num  
    while(data != 0)  
    {  
        num = (num * 10) + (data % 10);  
        data /= 10;  
    }  
    // Find total number of trailing zeros  
    digits = digits - ((int) log10(num));  
    //Extract last digit of number and print corresponding number in words  
    //till num becomes 0  
    while(num != 0)  
    {  
        switch(num % 10)  
        {  
            case 0:  
                printf("Zero ");  
                break;  
            case 1:  
                printf("One ");  
                break;  
            case 2:  
                printf("Two ");  
                break;  
            case 3:
```

```

printf("Three ");
break;
case 4:
printf("Four ");
break;
case 5:
printf("Five ");
break;
case 6:
printf("Six ");
break;
case 7:
printf("Seven ");
break;
case 8:
printf("Eight ");
break;
case 9:
printf("Nine ");
break;
}
num /= 10;
}
// Print all trailing 0
while(digits)
{
printf("Zero ");
digits--;
}
return 0;
}

```

/tmp/UpjkFuaLyW.o

Enter any number to print in words: 094756223

Nine Four Seven Five Six Two Two Three |

42)WAP TO PRINT ALL THE ASCII VALUES WITH THERE VALUES.

```

#include <stdio.h>
int main() {
    char c;
    printf("Enter a character: ");
    scanf("%c", &c);

    // %d displays the integer value of a character
    // %c displays the actual character
    printf("ASCII value of %c = %d", c, c);
}

```

```
    return 0;
}
```

```
/tmp/UpjkFuaLyW.o
```

```
Enter a character: R
```

```
ASCII value of R = 82
```

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

```
int main()
```

```
{
```

```
    int base, exponent;
```

```
    long long power = 1;
```

```
    int i;
```

```
    /* Input base and exponent from user */
```

```
    printf("Enter base: ");
```

```
    scanf("%d", &base);
```

```
    printf("Enter exponent: ");
```

```
    scanf("%d", &exponent);
```

```
    /* Multiply base, exponent times*/
```

```
    for(i=1; i<=exponent; i++)
```

```
    {
```

```
        power = power * base;
```

```
    }
```

```
    printf("%d ^ %d = %lld", base, exponent, power);
```

```
    return 0;
```

```
}
```

```
/tmp/UpjkFuaLyW.o  
Enter base: 32  
Enter exponent: 4  
32 ^ 4 = 1048576
```

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

```
int main()
```

```
{
```

```
    int i, num;
```

```
    /* Input number from user */
```

```
    printf("Enter any number to find its factor: ");
```

```
    scanf("%d", &num);
```

```
    printf("All factors of %d are: \n", num);
```

```
    /* Iterate from 1 to num */
```

```
    for(i=1; i<=num; i++)
```

```
    {
```

```
        /*
```

```
         * If num is exactly divisible by i
```

```
         * Then i is a factor of num
```

```
        */
```

```
        if(num % i == 0)
```

```
        {
```

```
            printf("%d, ",i);
```

```
        }
```

```
    }
```

```
    return 0;
```

```
}
```

Copy

```
/tmp/UpjkFuaLyW.o
```

```
Enter any number to find its factor: 78
```

```
All factors of 78 are:
```

```
1, 2, 3, 6, 13, 26, 39, 78, |
```

45)WAP TO FIND THE FACTORIAL OF A NUMBER.

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

```
int main(){
```

```
    int x,fact=1,n;
```

```
    printf("Enter a number to find factorial: ");
```

```
    scanf("%d",&n);
```

```
    for(x=1;x<=n;x++)
```

```
        fact=fact*x;
```

```
    printf("Factorial of %d is: %d",n,fact);
```

```
    return 0;
```

```
}
```

/tmp/fnEOwnScgT.o

Enter a number to find factorial: 12

Factorial of 12 is: 479001600

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

```
int main()
```

```
{
```

```
    int n1,n2;
```

```
    printf("enter the number:");
```

```
    scanf("%d%d",&n1,&n1);
```

```
    int min = (n1<n2) ? n1 : n2;
```

```
    int hcf=1;
```

```
    for(int i=1; i<=min; i++)
```

```
    {
```

```
        if(n1%i==0 && n2%i==0)
```

```
        {
```

```
            hcf = i;
```

```
        }
```

```
    }
```

```
    printf(" HCF of %d and %d = %d\n", n1, n2, hcf);
```

```
    return 0;
```

```
}
```

/tmp/fnEOwnScgT.o

enter the number:45

75

HCF of 75 and 32766 = 3

47)WAP TO FIND THE LCM OF NUMBER.

```
include <stdio.h>

int main() {

    int n1, n2, max;

    printf("Enter two positive integers: ");
    scanf("%d %d", &n1, &n2);

    // maximum number between n1 and n2 is stored in max
    max = (n1 > n2) ? n1 : n2;

    while (1) {
        if ((max % n1 == 0) && (max % n2 == 0)) {
            printf("The LCM of %d and %d is %d.", n1, n2, max);
            break;
        }
        ++max;
    }
    return 0;
}
```

```
/tmp/HLiunWlAjF.o
Enter two positive integers: 56
74
The LCM of 56 and 74 is 2072.
```

48) WAP TO CHECK THAT ENTERED NUMBER IS PRIME OR NOT.

```
#include <stdio.h>

main() {
    int n, i, c = 0;
    printf("Enter any number n:");
    scanf("%d", &n);

    //logic
    for (i = 1; i <= n; i++) {
        if (n % i == 0) {
            c++;
        }
    }
}
```

```

if (c == 2) {
    printf("n is a Prime number");
}
else {
    printf("n is not a Prime number");
}
return 0;
}

```

```

/tmp/HLiunWlAjF.o
Enter any number n:17
n is a Prime number|

```

49)WAP TP PRINT ALL PRIME NUMBERS BETWEEN 1 TO N.

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

```
int main(){
```

```

    int num,i,count,n;
    printf("Enter max range: ");
    scanf("%d",&n);

```

```
    for(num = 1;num<=n;num++){
```

```
        count = 0;
```

```

        for(i=2;i<=num/2;i++){
            if(num%i==0){
                count++;
                break;
            }
        }
    }

```

```
        if(count==0 && num!= 1)
```



```

        printf("%d ", num);
    }

    return 0;
}
/tmp/HLiunWlAjF.o
Enter max range: 50
2 3 5 7 11 13 17 19 23 29 31 37 41 43 47

```

50)WAP TO FND THE SUM OF ALL PRIME NUMBERS BETWEEN 1 TO N.

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

```

int main()
{
    int i, j, end, isPrime, sum=0;

    /* Input upper limit from user */
    printf("Find sum of all prime between 1 to : ");
    scanf("%d", &end);

    /* Find all prime numbers between 1 to end */
    for(i=2; i<=end; i++)
    {
        /* Check if the current number i is Prime or not */
        isPrime = 1;
        for(j=2; j<=i/2 ;j++)
        {
            if(i%j==0)
            {
                /* 'i' is not prime */
                isPrime = 0;
                break;
            }
        }

        /*
         * If 'i' is Prime then add to sum
         */
        if(isPrime==1)
        {
            sum += i;
        }
    }
}

```

```

    }
}

printf("Sum of all prime numbers between 1 to %d = %d", end, sum);

return 0;
/tmp/HLiunWlAjF.o
Find sum of all prime between 1 to : 50
Sum of all prime numbers between 1 to 50 = 328
}

```

51)WAP TO FIND ALL THE PRIME FACTORS OF A NUMBERS.

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

```
int main()
```

```
{
```

```
    int i, j, num, isPrime;
```

```
    /* Input a number from user */
```

```
    printf("Enter any number to print ITS Prime factors: ");
```

```
    scanf("%d", &num);
```

```
    printf("All Prime Factors of %d are: \n", num);
```

```
    /* Find all Prime factors */
```

```
    for(i=2; i<=num; i++)
```

```
{
```

```
    /* Check 'i' for factor of num */
```

```
    if(num%i==0)
```

```
{
```

```
    /* Check 'i' for Prime */
```

```
    isPrime = 1;
```

```

        for(j=2; j<=i/2; j++)
        {
            if(i%j==0)
            {
                isPrime = 0;
                break;
            }
        }

        /* If 'i' is Prime number and factor of num */
        if(isPrime==1)
        {
            printf("%d, ", i);
        }
    }

    return 0;
}

```

```
/tmp/HLiunWlAjF.o
```

```

Enter any number to print ITS Prime factors: 78
All Prime Factors of 78 are:
2, 3, 13, |

```

```

52) #include <stdio.h>
int main() {
    int num, originalNum, remainder, result = 0;
    printf("Enter a three-digit integer: ");
    scanf("%d", &num);
    originalNum = num;

    while (originalNum != 0) {
        // remainder contains the last digit
        remainder = originalNum % 10;
    }
}

```

```

        result += remainder * remainder * remainder;

        // removing last digit from the original number
        originalNum /= 10;
    }

    if (result == num)
        printf("%d is an Armstrong number.", num);
    else
        printf("%d is not an Armstrong number.", num);

    return 0;
}

```

```

/tmp/HLiunWlAjF.o
Enter a three-digit integer: 675
675 is not an Armstrong number.

```

```

53) #include <stdio.h>
#include <math.h>

int main()
{
    int num, lastDigit, digits, sum, i, end;

    /* Input upper limit from user */
    printf("Enter upper limit: ");
    scanf("%d", &end);

    printf("Armstrong number between 1 to %d are: \n", end);

    for(i=1; i<=end; i++)
    {
        sum = 0;

        /* Copy the value of num for processing */
        num = i;

        /* Find total digits in num */
        digits = (int) log10(num) + 1;

        /* Calculate sum of power of digits */
        while(num > 0)

```

```

    {
        /* Extract last digit */
        lastDigit = num % 10;

        // Find sum of power of digits
        // Use ceil() function to overcome any rounding errors by pow()
        sum = sum + ceil(pow(lastDigit, digits));

        /* Remove the last digit */
        num = num / 10;
    }

    /* Check for Armstrong number */
    if(i == sum)
    {
        printf("%d, ", i);
    }
}

return 0;
}

```

```

/tmp/HLiunWlAjF.o
Enter upper limit: 101
Armstrong number between 1 to 101 are:
1, 2, 3, 4, 5, 6, 7, 8, 9, |

```

54)WAP TO CHECK WHETHER ENTERED NUMBER IS A PERFECT NUMBER OR NOT.

```

#include<stdio.h>
int main(){
    int n,i=1,sum=0;

    printf("Enter a number: ");
    scanf("%d",&n);

    while(i<n){
        if(n%i==0)
            sum=sum+i;
        i++;
    }
    if(sum==n)

```

```

printf("%d is a perfect number",i);
else
printf("%d is not a perfect number",i);

return 0;
}

```

```

/tmp/HLiunWlAjF.o

```

```

Enter a number: 55

```

```

55 is not a perfect number|

```

55)WAP TO PRINT ALL THE PERFECT NUMBERS BETWEEN 1 TO N.

```

#include <stdio.h>

```

```

int main()
{

```

```

    int i, j, end, sum;

```

```

    /* Input upper limit to print perfect number */

```

```

    printf("Enter upper limit: ");

```

```

    scanf("%d", &end);

```

```

    printf("All Perfect numbers between 1 to %d:\n", end);

```

```

    /* Iterate from 1 to end */

```

```

    for(i=1; i<=end; i++)

```

```

    {

```

```

        sum = 0;

```

```

        /* Check whether the current number i is Perfect number or not */

```

```

        for(j=1; j<i; j++)

```

```

        {

```

```

            if(i % j == 0)

```

```

            {

```

```

                sum += j;

```

```

            }

```

```

        }

```

```

        /* If the current number i is Perfect number */

```

```

        if(sum == i)

```

```

        {

```

```

            printf("%d, ", i);

```

```

        }

```

```

    }

```

```
    return 0;
}
```

```
/tmp/HLiunWlAjF.o
```

```
Enter upper limit: 56
```

```
All Perfect numbers between 1 to 56:
```

```
6, 28,
```

56)WAP TO CHECK WHETHER ENTERED NUMBER IS STRONG OR NOT.

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

```
int main()
```

```
{
```

```
    int i, originalNum, num, lastDigit, sum;
```

```
    long fact;
```

```
    /* Input a number from user */
```

```
    printf("Enter any number to check Strong number: ");
```

```
    scanf("%d", &num);
```

```
    /* Copy the value of num to a temporary variable */
```

```
    originalNum = num;
```

```
    sum = 0;
```

```
    /* Find sum of factorial of digits */
```

```
    while(num > 0)
```

```
    {
```

```
        /* Get last digit of num */
```

```
        lastDigit = num % 10;
```

```
        /* Find factorial of last digit */
```

```
        fact = 1;
```

```
        for(i=1; i<=lastDigit; i++)
```

```
        {
```

```

        fact = fact * i;
    }

    /* Add factorial to sum */
    sum = sum + fact;

    num = num / 10;
}

/* Check Strong number condition */
if(sum == originalNum)
{
    printf("%d is STRONG NUMBER", originalNum);
}
else
{
    printf("%d is NOT STRONG NUMBER", originalNum);
}

return 0;
}

```

```
/tmp/HLiunWlAjF.o
```

```
Enter any number to check Strong number: 78
```

```
78 is NOT STRONG NUMBER|
```

57)WAP TO PRINT ALL THE STRONG NUMBERS BETWEEN 1 TO N.

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

```
int main()
```

```
{
```

```
    int i, j, cur, lastDigit, end;
```

```
    long long fact, sum;
```

```
    /* Input upper limit from user */
```

```
    printf("Enter upper limit: ");
```

```
    scanf("%d", &end);
```

```
    printf("All Strong numbers between 1 to %d are:\n", end);
```



```

/* Iterate from 1 to end */
for(i=1; i<=end; i++)
{
    /* Number to check for strong number */
    cur = i;

    sum = 0;

    /* Find the sum of factorial of digits */
    while(cur > 0)
    {
        fact = 1;
        lastDigit = cur % 10;

        /* Find factorial of last digit of current num. */
        for( j=1; j<=lastDigit; j++)
        {
            fact = fact * j;
        }

        sum += fact;

        cur /= 10;
    }

    /* Print 'i' if it is strong number */
    if(sum == i)
    {
        printf("%d, ", i);
    }
}

return 0;
}

```

```
/tmp/HLiunWlAjF.o
```

```
Enter upper limit: 57
```

```
All Strong numbers between 1 to 57 are:
```

```
1, 2, |
```

58) wap to print fabionicci series upto n .

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

```
int main()
{
    int a, b, c, i, terms;

    /* Input number from user */
    printf("Enter number of terms: ");
    scanf("%d", &terms);

    /* Fibonacci magic initialization */
    a = 0;
    b = 1;
    c = 0;

    printf("Fibonacci terms: \n");

    /* Iterate through n terms */
    for(i=1; i<=terms; i++)
    {
        printf("%d, ", c);

        a = b; // Copy n-1 to n-2
        b = c; // Copy current to n-1
        c = a + b; // New term
    }

    return 0;
}
```

```
/tmp/O628huPbM0.o
```

```
Enter number of terms: 14
```

```
Fibonacci terms:
```

```
0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, |
```

59)WAP TO PRINT ONES COMPLEMENT OF A BINARY NUMBER.

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

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

```
int main() {  
    char binaryNumber[100], onesComplement[100];  
    int counter, error=0, digitCount;  
  
    printf("Enter a Binary Number\n");  
    scanf("%s", binaryNumber);  
  
    digitCount = strlen(binaryNumber);  
  
    for(counter=0; counter < digitCount; counter++) {  
        if(binaryNumber[counter]=='1') {  
            onesComplement[counter] = '0';  
        } else if(binaryNumber[counter]=='0') {  
            onesComplement[counter] = '1';  
        } else {  
            printf("Error :( ");  
            return 1;  
        }  
    }  
    onesComplement[digitCount] = '\0';  
  
    printf("Ones Complement : %s", onesComplement);  
  
    return 0;  
}
```

```
/tmp/0628huPbM0.o
Enter a Binary Number
10100
Ones Complement : 01011
```

60)WAP TO FIND 2S COMPLIMENT OF BINARY NUMBERS.

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

int main() {
    char binaryNumber[100], onesComplement[100],
    twosComplement[100];
    int counter, error=0, digitCount, carry = 1;

    printf("Enter a Binary Number\n");
    scanf("%s", binaryNumber);

    digitCount = strlen(binaryNumber);

    for(counter=0; counter < digitCount; counter++) {
        if(binaryNumber[counter]=='1') {
            onesComplement[counter] = '0';
        } else if(binaryNumber[counter]=='0') {
            onesComplement[counter] = '1';
        } else {
            printf("Error :( ");
            return 1;
        }
    }
    onesComplement[digitCount] = '\0';

    for(counter = digitCount-1; counter >= 0; counter--) {
        if(onesComplement[counter]=='1' && carry==1){
            twosComplement[counter] = '0';
```

```

    } else if(onesComplement[counter]=='0' && carry==1) {
        twosComplement[counter] = '1';
        carry = 0;
    } else {
        twosComplement[counter] = onesComplement[counter];
    }
}
twosComplement[digitCount] = '\0';

printf("Two's Complement : %s", twosComplement);

return 0;
}

```

/tmp/O628huPbM0.o

Enter a Binary Number

1010

Two's Complement : 0110

61)WAP TO CONVERT BINARY TO OCTAL.

Copy

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

```
#include<math.h>
```

```
int main()
```

```
{
```

```
    int i, octal = 0, decimal = 0;
```

```
    long binary;
```

```
    printf("Enter the Binary Number = ");
```

```
    scanf("%ld", &binary);
```

```
    i = 0;
```

```
    while(binary != 0)
```

```
    {
```

```
        decimal = decimal + (binary % 10) * pow(2, i);
```

```
        i++;
```

```
        binary = binary/10;
```

```

    }

    i = 1;
    while(decimal != 0)
    {
        octal = octal + (decimal % 8) * i;
        decimal = decimal / 8;
        i = i * 10;
    }
    printf("The octal Value = %d\n", octal);
}

```

/tmp/O628huPbM0.o

Enter the Binary Number = 10110101

The octal Value = 265

62)WAP TO CONVERT BINARY TO DECIMAL.

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

```

void main()
{
    int num, binary_val, decimal_val = 0, base = 1, rem;

    printf("Enter a binary number(1s and 0s) \n");
    scanf("%d", &num); /* maximum five digits */
    binary_val = num;
    while (num > 0)
    {
        rem = num % 10;
        decimal_val = decimal_val + rem * base;
        num = num / 10 ;
        base = base * 2;
    }
    printf("The Binary number is = %d \n", binary_val);
    printf("Its decimal equivalent is = %d \n", decimal_val);
}

```

```
/tmp/Y0q67Sy160.o
Enter a binary number(1s and 0s)
1010011
The Binary number is = 1010011
Its decimal equivalent is = 83
|
```

63)WAP TO CONVERT BINARY TO HEXADECIMAL.

```
#include <stdio.h>

int main()
{
    long int binaryval, hexadecimalval = 0, i = 1, remainder;

    printf("Enter the binary number: ");
    scanf("%ld", &binaryval);
    while (binaryval != 0)
    {
        remainder = binaryval % 10;
        hexadecimalval = hexadecimalval + remainder * i;
        i = i * 2;
        binaryval = binaryval / 10;
    }
    printf("Equivalent hexadecimal value: %lX", hexadecimalval);
    return 0;
}
```

```
/tmp/Y0q67Sy160.o
Enter the binary number: 110101
Equivalent hexadecimal value: 35
```

64)WAP TO CONVERT OCTAL TO BINARY NUMBER SYSTEM.

```
#include <math.h>
#include <stdio.h>
int convert(long long bin);
int main() {
    long long bin;
    printf("Enter a binary number: ");
```

```

scanf("%lld", &bin);
printf("%lld in binary = %d in octal", bin, convert(bin));
return 0;
}

int convert(long long bin) {
    int oct = 0, dec = 0, i = 0;

    // converting binary to decimal
    while (bin != 0) {
        dec += (bin % 10) * pow(2, i);
        ++i;
        bin /= 10;
    }
    i = 1;

    // converting to decimal to octal
    while (dec != 0) {
        oct += (dec % 8) * i;
        dec /= 8;
        i *= 10;
    }
    return oct;
}

```

65)WAP TO CONVERT OCTAL TO DECIMAL.

```

1. #include <stdio.h>
2. #include <math.h>
3.
int main()
{

    long int octal, decimal = 0;
    int i = 0;

    printf("Enter any octal number: ");
    scanf("%ld", &octal); while (octal != 0)

```



```

    {
        decimal = decimal +(octal % 10)* pow(8, i++);
        octal = octal / 10;
    }
    printf("Equivalent decimal value: %ld",decimal);
    return 0;
}
/tmp/Y0q67Sy160.o
Enter any octal number: 5467
Equivalent decimal value: 2871|

```

66)WAP TO CONVERT OCTAL TO HEXADECIMAL.

```

#include <stdio.h>
#include <math.h>
int main()
{
    int n, sum = 0;
    printf("Enter the Octal Number :--> ");
    scanf("%d", &n);
    int i = 0;
    while(n != 0)
    {
        int digit = n % 10;
        sum = sum + (digit * pow(8,i));
        n = n / 10;
        i++;
    }
    printf("\nThe Decimal Number is :--> %d",sum);
    int ans = 0,j = 0;
    while(sum != 0)
    {
        int digit = sum % 16;
        ans = ans + (digit * pow(10, j));
        sum = sum / 16;
        j++;
    }
    printf("\nThe Hexadecimal Number is :--> %d",ans);
    return 0;
}

```

```

/tmp/Y0q67Sy160.o
Enter the Octal Number :--> 4563
The Decimal Number is :--> 2419
The Hexadecimal Number is :--> 973|

```

67)WAP CONVERT TO DECIMAL TO BINARY.

```

#include <stdio.h>
#include <math.h>

// function prototype
int convert(long long);

int main() {

    long long n;

    printf("Enter a binary number: ");
    scanf("%lld", &n);

    printf("%lld in binary = %d in decimal", n, convert(n));

    return 0;
}

// function definition
int convert(long long n) {

    int dec = 0, i = 0, rem;

    while (n != 0) {

        // get remainder of n divided by 10
        rem = n % 10;

        // divide n by 10
        n /= 10;

        // multiply rem by (2 ^ i)
        // add the product to dec
        dec += rem * pow(2, i);

        // increment i
        ++i;
    }

    return dec;
}

```

```
/tmp/2xsPy0GL9c.o
Enter a binary number: 1010111
1010111 in binary = 87 in decimal
```

68) #include <stdio.h>

```
int main()
{
    long decimalnum, remainder, quotient, octalnum=0;
    int octalNumber[100], i = 1, j;

    printf("Enter the decimal number: ");
    scanf("%ld", &decimalnum);
    quotient = decimalnum;

    //Storing remainders until number is
    //equal to zero
    while (quotient != 0)
    {
        octalNumber[i++] = quotient % 8;
        quotient = quotient / 8;
    }

    //Converting stored remainder values in corresponding octal number
    for (j = i - 1; j > 0; j--)
        octalnum = octalnum*10 + octalNumber[j];
    printf("Equivalent octal value of decimal no %d is: %d ", decimalnum, octalnum);
    return 0;
}
```

```
/tmp/kh1HTehgkI.o
Enter the decimal number: 45
Equivalent octal value of decimal no 45 is: 55 |
```

69) WAP TO CONVERT DECIMAL TO HEXADECIMAL.

#include <stdio.h>

```
int main()
```

```
{
```

```
int dn = 45;

printf("enter decimal number:");

scanf("%d",&dn);

int i = 1, j, temp;

char hexa_Number[100];


// if decimal number is not
// equal to zero then enter in
// to the loop and execute
// the statements
while (dn != 0) {
    temp = dn % 16;


    // converting decimal number
    // in to a hexa decimal
    // number
    if (temp < 10)
        temp = temp + 48;
    else
        temp = temp + 55;
    hexa_Number[i++] = temp;
    dn = dn / 16;
}

// printing the hexa decimal number
printf("Hexadecimal value is: ");
for (j = i - 1; j > 0; j--)
    printf("%c", hexa_Number[j]);


return 0;
```

}

```
/tmp/kh1HTehgkI.o
enter decimal number:42
Hexadecimal value is: 2A
```

70) wap to convert hexadecimal to binary .

```
#include <stdio.h>
#include <math.h>
int main()
{
    int n, ans = 0, B[100];
    printf("Enter the Hexadecimal Number :--> ");
    scanf("%d", &n);
    int i = 0;
    while(n != 0)
    {
        int digit = n % 10;
        ans = ans + (digit * pow(16, i));
        n = n / 10;
        i++;
    }
    printf("\nThe Decimal Number is :--> %d", ans);
    int j = 0, k;
    while(ans > 0)
    {
        B[j] = ans % 2; //to store the remainder in array
        ans = ans >> 1;
        j++;
    }
    printf("\nThe Binary Number is :--> ");
    for(k = j - 1; k >= 0; k--)
    {
        printf("%d", B[k]);
    }
    return 0;
}
```

```
Enter the Hexadecimal Number :--> 45
```

```
The Decimal Number is :--> 69
```

```
The Binary Number is :--> 1000101
```

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

71)WAP TO CONVERT HEXADECIMAL TO OCTAL.

```
#include <stdio.h>
#include <math.h>
int main()
{
    int n, ans = 0;
    printf("Enter the Hexadecimal number :--> ");
    scanf("%d", &n);
    int i = 0;
    while(n != 0)
    {
        int digit = n % 10;
        ans = ans + (digit * pow(16, i));
        n = n / 10;
        i++;
    }
    printf("\nThe Decimal Number is :--> %d", ans);
    int j = 0, ans2 = 0;
    while(ans != 0)
    {
        int digit = ans%8;
        ans2 = ans2 + (digit * pow(10, j));
        ans = ans / 8;
        j++;
    }
    printf("\nThe Octal Number is :--> %d", ans2);
    return 0;
}
```

Enter the Hexadecimal number :--> 567

The Decimal Number is :--> 1383

The Octal Number is :--> 2547

...Program finished with exit code 0

Press ENTER to exit console.

72)WAP TO CONVERT HEXADECIMAL TO DECIMAL.

```
#include <stdio.h>
#include <math.h>
int main()
{
    int n, ans = 0;
    printf("Enter the Hexadecimal number :--> ");
    scanf("%d", &n);
    int i = 0;
    while(n != 0)
    {
        int digit = n % 10;
        ans = ans + (digit * pow(16, i));
        n = n / 10;
        i++;
    }
}
```

```

}
printf("\nThe Decimal Number is :--> %d", ans);
int j = 0, ans2 = 0;
while(ans != 0)
{
    int digit = ans%8;
    ans2 = ans2 + (digit * pow(10, j));
    ans = ans / 8;
    j++;
    return 0;}

```

Enter the Hexadecimal number :--> 465

The Decimal Number is :--> 1125

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

PATTERNS

73)WAP TO PRINT PYRAMID WITH STARS.

```

#include <stdio.h>
int main() {
    int i, space, rows, k = 0;
    printf("Enter the number of rows: ");
    scanf("%d", &rows);
    for (i = 1; i <= rows; ++i, k = 0) {
        for (space = 1; space <= rows - i; ++space) {
            printf(" ");
        }
        while (k != 2 * i - 1) {
            printf("* ");
            ++k;
        }
        printf("\n");
    }
    return 0;
}

```

```
Enter the number of rows: 5
```

```

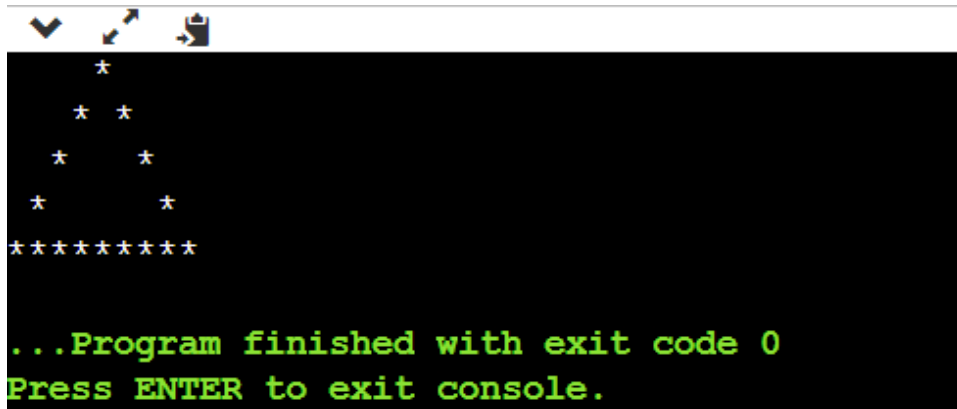
    *
  * * *
* * * * *
* * * * * * *
* * * * * * * *
```

74) HOLLOW PYRAMID.

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

```
int main() {
    int i, space, rows, star=0;
    printf("Enter the number of rows\n");
    scanf("%d",&rows);

    /* printing one row in every iteration */
    for(i = 0; i < rows-1; i++) {
        /* Printing spaces */
        for(space = 1; space < rows-i; space++) {
            printf(" ");
        }
        /* Printing stars */
        for (star = 0; star <= 2*i; star++) {
            if(star==0 || star==2*i)
                printf("*");
            else
                printf(" ");
        }
        /* move to next row */
        printf("\n");
    }
    /* print last row */
    for(i=0; i<2*rows-1; i++){
        printf("*");
    }
    return 0;
}
```

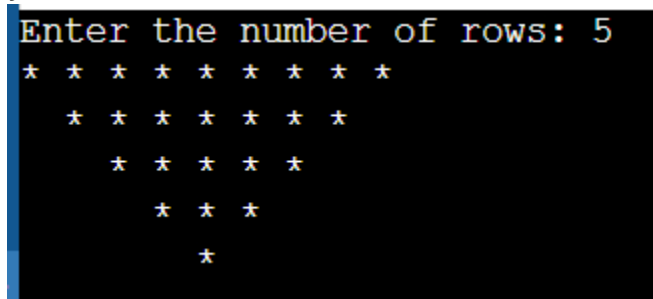
```

    *
   * *
  *  *
 *   *
*****

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

75)INVERTED PYRAMID.

```
#include <stdio.h>
int main() {
    int rows, i, j, space;
    printf("Enter the number of rows: ");
    scanf("%d", &rows);
    for (i = rows; i >= 1; --i) {
        for (space = 0; space < rows - i; ++space)
            printf(" ");
        for (j = i; j <= 2 * i - 1; ++j)
            printf("* ");
        for (j = 0; j < i - 1; ++j)
            printf(" ");
        printf("\n");
    }
    return 0;
}
```



```

Enter the number of rows: 5
* * * * *
 * * * * *
  * * * *
   * * *
    * *
     *
```

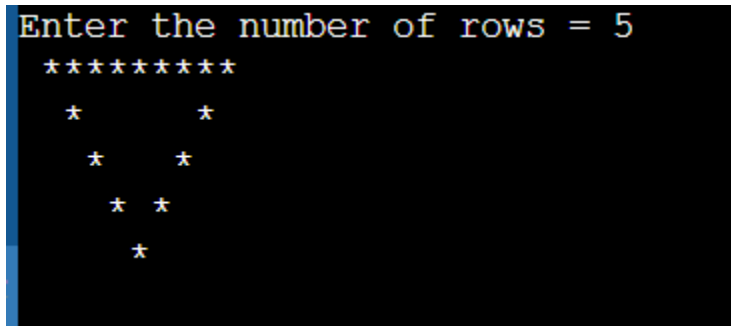
75)INVERTEED HOLLLOW PYRAMID.

```
#include <stdio.h>
int main()
{
    int x = 0, y = 0;
    unsigned int rows = 0;
    printf("Enter the number of rows = ");
    scanf("%u", &rows);
    for (x=1; x<=rows; ++x)
    {
        // Print spaces
        for (y=1; y<=x; ++y)
```

```

{
printf(" ");
}
// Print star/
for(y =1; y <=((rows*2)-((2*x)-1)); ++y)
{
if(x==1 || y==1 || y==((rows*2)-((2*x)-1)))
{
printf("*");
}
else
{
printf(" ");
}
}
// Print new line
printf("\n");
}
return 0;
}

```



76)DIAMOND

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

```
int main()
```

```
{
```

```
int n, c, k;
```

```
printf("Enter number of rows\n");
```

```
scanf("%d", &n);
```

```
for (k = 1; k <= n; k++)
```

```
{
```

```
for (c = 1; c <= n-k; c++)
```

```
printf(" ");
```

```
for (c = 1; c <= 2*k-1; c++)
```

```
printf("*");
```

```
printf("\n");
```

```
}
```

```

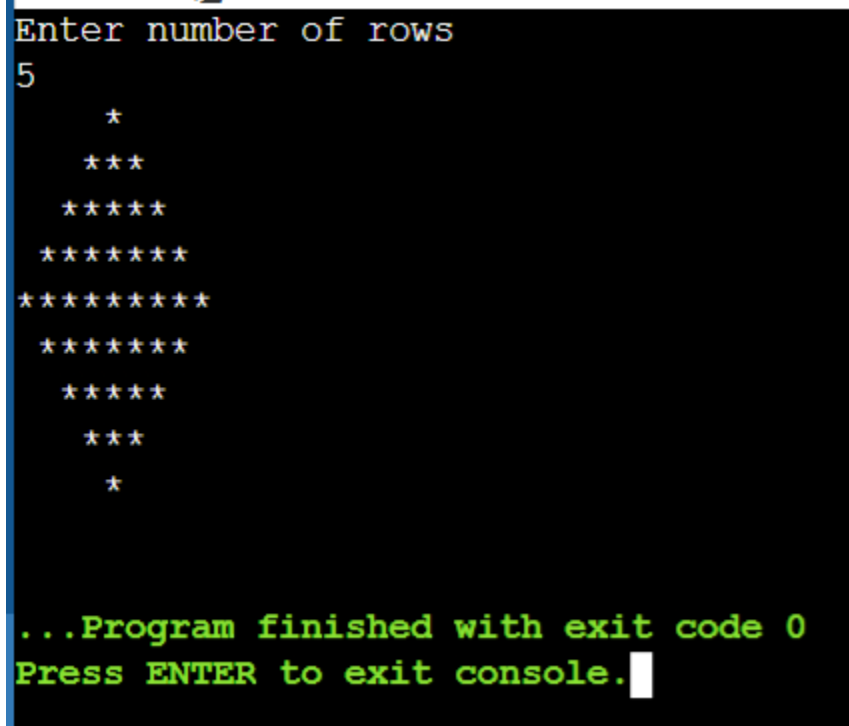
for (k = 1; k <= n - 1; k++)
{
    for (c = 1; c <= k; c++)
        printf(" ");

    for (c = 1 ; c <= 2*(n-k)-1; c++)
        printf("*");

    printf("\n");
}

return 0;
}

```



The screenshot shows a terminal window with a black background. At the top, it says "Enter number of rows" in a light blue font, followed by the user input "5". Below this, a diamond pattern of white stars is displayed. The pattern consists of 5 rows: the first row has 1 star, the second has 3 stars, the third has 5 stars, the fourth has 7 stars, and the fifth has 9 stars. The stars are centered, creating a symmetrical diamond shape. At the bottom of the terminal, it says "...Program finished with exit code 0" and "Press ENTER to exit console." in a light green font.

NUMBER PATTERN PROGRAMS.

77) SQUARE NUMBER PATTERN.

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

```

int main()
{
    int i, j, Side;

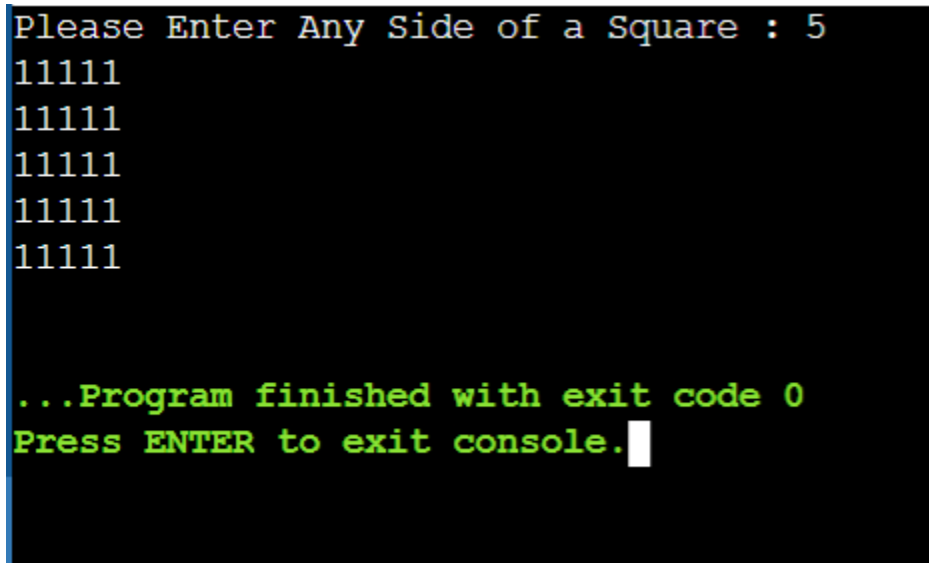
    printf("Please Enter Any Side of a Square : ");
    scanf("%d", &Side);

```

```

    for(i = 0; i < Side; i++)
    {
        for(j = 0; j < Side; j++)
        {
            printf("1");
        }
        printf("\n");
    }
    return 0;
}

```



```

Please Enter Any Side of a Square : 5
11111
11111
11111
11111
11111
11111

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

```

78) **#include** <stdio.h>

```

int main()
{
    int rows, cols, i, j;

    /* Input rows and columns from user */
    printf("Enter number of rows: ");
    scanf("%d", &rows);
    printf("Enter number of columns: ");
    scanf("%d", &cols);

    for(i=1; i<=rows; i++)
    {
        for(j=1; j<=cols; j++)
        {

```

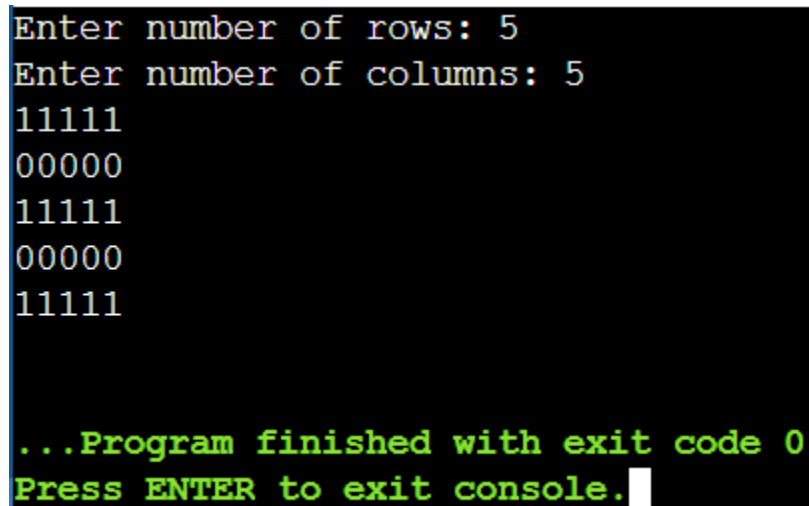
```

        // Print 1 if current row is odd
        if(i%2 == 1)
        {
            printf("1");
        }
        else
        {
            printf("0");
        }
    }

    printf("\n");
}

return 0;
}

```



```

Enter number of rows: 5
Enter number of columns: 5
11111
00000
11111
00000
11111

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

```

79) #include <stdio.h>

```

int main()
{
    int rows, cols, i, j;

    /* Input rows and columns from user */
    printf("Enter number of rows: ");
    scanf("%d", &rows);
    printf("Enter number of columns: ");
    scanf("%d", &cols);
}

```

```

for(i=1; i<=rows; i++)
{
    for(j=1; j<=cols; j++)
    {
        // Print 1 if current column is even
        if(j%2 == 1)
        {
            printf("0");
        }
        else
        {
            printf("1");
        }
    }

    printf("\n");
}

return 0;
}

```

```

Enter number of rows: 5
Enter number of columns: 5
01010
01010
01010
01010
01010
01010

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

```

80)

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

```
int main()
```

```
{
```

```
    int rows, cols, i, j;
```

```
    /* Input rows and columns from user */
```

```
    printf("Enter number of rows: ");
```

```
scanf("%d", &rows);
printf("Enter number of columns: ");
scanf("%d", &cols);

for(i=1; i<=rows; i++)
{
    for(j=1; j<=cols; j++)
    {
        /*
        * Print 1 if its first or last row
        * Print 1 if its first or last column
        */
        if(i==1 || i==rows || j==1 || j==cols)
        {
            printf("1");
        }
        else
        {
            printf("0");
        }
    }

    printf("\n");
}

return 0;
}
```

```
Enter number of rows: 5
Enter number of columns: 5
11111
10001
10001
10001
10001
11111

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

81)

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

```
int main()
```

```
    int rows, cols, i, j;
```

```
    int centerRow, centerCol;
```

```
    /* Input rows and columns from user */
```

```
    printf("Enter number of rows: ");
```

```
    scanf("%d", &rows);
```

```
    printf("Enter number of columns: ");
```

```
    scanf("%d", &cols);
```

```
    /* Find center row and column */
```

```
    centerRow = (rows + 1) / 2;
```

```
    centerCol = (cols + 1) / 2;
```

```
    for(i=1; i<=rows; i++)
```

```
    {
```

```
        for(j=1; j<=cols; j++)
```

```
        {
```

```
            if(centerCol == j && centerRow == i)
```

```
            {
```

```
                printf("0");
```

```
            }
```

```
            else if(cols%2 == 0 && centerCol+1 == j)
```

```
            {
```

```
                if(centerRow == i || (rows%2 == 0 && centerRow+1 == i))
```

```
                    printf("0");
```

```
                else
```



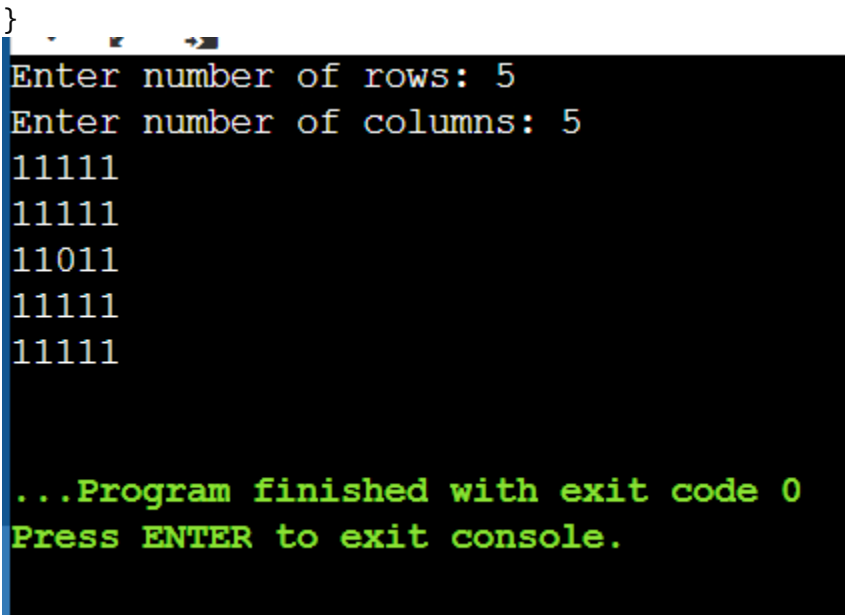
```

        printf("1");
    }
    else if(rows%2 == 0 && centerRow+1 == i)
    {
        if(centerCol == j || (cols%2 == 0 && centerCol+1 == j))
            printf("0");
        else
            printf("1");
    }
    else
    {
        printf("1");
    }
}

printf("\n");
}

return 0;
}

```



```

Enter number of rows: 5
Enter number of columns: 5
11111
11111
11011
11111
11111

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

```

82)

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

```
int main()
```

```
{
```

```
    int rows, cols, i, j, k;
```

```
    /* Input rows and columns from user */
```

```
    printf("Enter number of rows: ");
```

```
    scanf("%d", &rows);
```

```

printf("Enter number of columns: ");
scanf("%d", &cols);

k = 1;

for(i=1; i<=rows; i++)
{
    for(j=1; j<=cols; j++)
    {
        if(k == 1)
        {
            printf("1");
        }
        else
        {
            printf("0");
        }

        // If k = 1 then k *= -1 => -1
        // If k = -1 then k *= -1 => 1
        k *= -1;
    }

    if(cols % 2 == 0)
    {
        k *= -1;
    }

    printf("\n");
}

return 0;
}

```

```
Enter number of rows: 5
Enter number of columns: 5
10101
01010
10101
01010
10101

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

IF ELSE... PROGRAMS.

83)WAP TO FIND MAXIMUM BETWEEN TWO NUMBERS.

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

```
int main() {
    int a, b;
    printf("Enter Two Integers\n");
    scanf("%d %d", &a, &b);

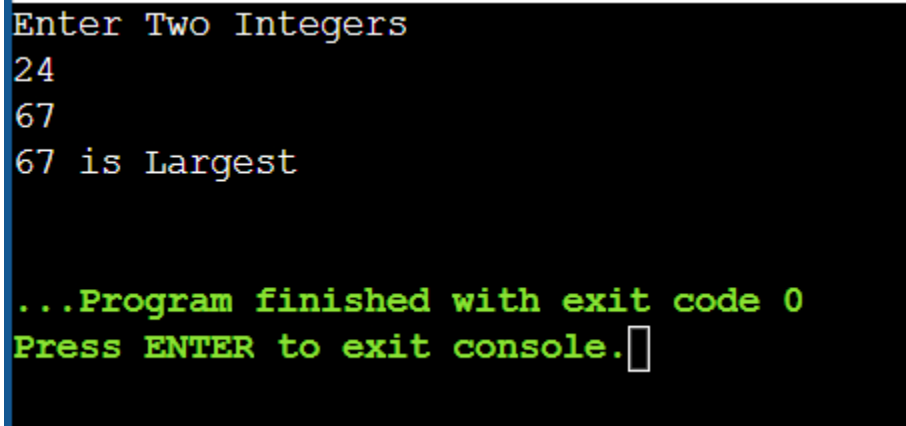
    if(a > b) {
        /* a is greater than b */
        printf("%d is Largest\n", a);
    } else if (b > a){
        /* b is greater than a*/
        printf("%d is Largest\n", b);
    } else {
```

```

        printf("Both Equal\n");
    }

    return 0;
}

```



The screenshot shows a terminal window with a black background. The text is as follows:

```

Enter Two Integers
24
67
67 is Largest

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

```

84)WAP TO FIND LARGEST NUMBER BETWEEN THREE NUMBERS.

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

```
int main() {
```

```
    double n1, n2, n3;
```

```
    printf("Enter three different numbers: ");
```

```
    scanf("%lf %lf %lf", &n1, &n2, &n3);
```

```
    // if n1 is greater than both n2 and n3, n1 is the largest
```

```
    if (n1 >= n2 && n1 >= n3)
```

```
        printf("%.2f is the largest number.", n1);
```

```
    // if n2 is greater than both n1 and n3, n2 is the largest
```

```
    if (n2 >= n1 && n2 >= n3)
```

```
        printf("%.2f is the largest number.", n2);
```

```
    // if n3 is greater than both n1 and n2, n3 is the largest
```

```
    if (n3 >= n1 && n3 >= n2)
```

```
        printf("%.2f is the largest number.", n3);
```

```
    return 0;
}
```

```
Enter three different numbers: 34
65
68
68.00 is the largest number.

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

85) WAP TO CHECK WHETHER ENTERED NUMBER IS NEGATIVE OR POSITIVE.

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

```
int main() {

    double num;
    printf("Enter a number: ");
    scanf("%lf", &num);
    if (num <= 0.0) {
        if (num == 0.0)
            printf("You entered 0.");
        else
            printf("You entered a negative number.");
    }
    else
        printf("You entered a positive number.");

    return 0;
}
```

```
Enter a number: 56
You entered a positive number.

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

86) #include <stdio.h>

```
int main()
{
    int num;
```

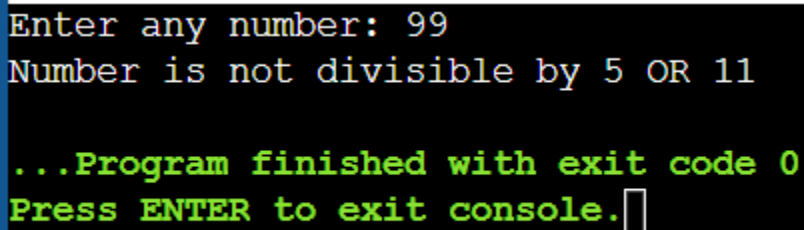
```

/* Input number from user */
printf("Enter any number: ");
scanf("%d", &num);

/*
 * If num modulo division 5 is 0
 * and num modulo division 11 is 0 then
 * the number is divisible by 5 and 11 both
 */
if((num % 5 == 0) && (num % 11 == 0))
{
    printf("Number is divisible by 5 OR 11");
}
else
{
    printf("Number is not divisible by 5 OR 11");
}

return 0;
}

```



```

Enter any number: 99
Number is not divisible by 5 OR 11

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

```

86)WAP TO CHECK WETHER ENTERED NUMBER IS EVEN OR ODD.

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

```

int main()
{
    int a;
    printf("Enter a: ");
    scanf("%d", &a);

    //logic
    if (a % 2 == 0) {
        printf("The given number is EVEN");
    }
    else {

```

```

        printf("The given number is ODD");
    }
    return 0;
}

```

```

Enter a: 57
The given number is ODD

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

```

87)WAP TO CHECK WETNHER YEAR IS A LEAP OR NOT.

```

#include <stdio.h>
int main() {
    int year;
    printf("Enter a year: ");
    scanf("%d", &year);

    // leap year if perfectly divisible by 400
    if (year % 400 == 0) {
        printf("%d is a leap year.", year);
    }
    // not a leap year if divisible by 100
    // but not divisible by 400
    else if (year % 100 == 0) {
        printf("%d is not a leap year.", year);
    }
    // leap year if not divisible by 100
    // but divisible by 4
    else if (year % 4 == 0) {
        printf("%d is a leap year.", year);
    }
    // all other years are not leap years
    else {
        printf("%d is not a leap year.", year);
    }

    return 0;
}

```

```
Enter a year: 66
66 is not a leap year.

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

88)WAP TO CHECK WHETHER CHARACTER IS ALPHABET OR NOT.

```
#include <stdio.h>
int main() {
    char c;
    printf("Enter a character: ");
    scanf("%c", &c);

    if ((c >= 'a' && c <= 'z') || (c >= 'A' && c <= 'Z'))
        printf("%c is an alphabet.", c);
    else
        printf("%c is not an alphabet.", c);

    return 0;
}
```

```
Enter a character: YY
Y is an alphabet.

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

```
89#include <stdio.h>
int main() {
    char c;
    int lowercase_vowel, uppercase_vowel;
    printf("Enter an alphabet: ");
    scanf("%c", &c);

    // evaluates to 1 if variable c is a lowercase vowel
    lowercase_vowel = (c == 'a' || c == 'e' || c == 'i' || c == 'o' || c == 'u');

    // evaluates to 1 if variable c is a uppercase vowel
    uppercase_vowel = (c == 'A' || c == 'E' || c == 'I' || c == 'O' || c == 'U');

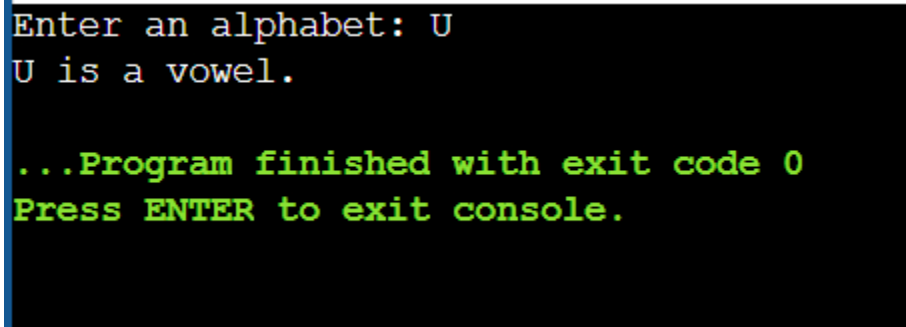
    // evaluates to 1 (true) if c is a vowel
    if (lowercase_vowel || uppercase_vowel)
```



```

        printf("%c is a vowel.", c);
    else
        printf("%c is a consonant.", c);
    return 0;
}

```



```

Enter an alphabet: U
U is a vowel.

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

```

90) WAP TO CHECK THAT ENTERED VALUE IS A ALPHABET ,DIGIT,SPECIAL SYMBOL.

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

```

int main()
{
    char ch;

    /* Input character from user */
    printf("Enter any character: ");
    scanf("%c", &ch);

    /* Alphabet check */
    if((ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z'))
    {
        printf("'%c' is alphabet.", ch);
    }
    else if(ch >= '0' && ch <= '9')
    {
        printf("'%c' is digit.", ch);
    }
    else
    {
        printf("'%c' is special character.", ch);
    }

    return 0;
}

```

```
Enter any character: #
'#' is special character.

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

91)WAP TO CHECK ENTERD IS IN UPPERCASE OR IN LOWERCASE.

```
#include <stdio.h>

int main()
{
    char ch;

    /* Input character from user */
    printf("Enter any character: ");
    scanf("%c", &ch);

    if(ch >= 'A' && ch <= 'Z')
    {
        printf("'%'c' is uppercase alphabet.", ch);
    }
    else if(ch >= 'a' && ch <= 'z')
    {
        printf("'%'c' is lowercase alphabet.", ch);
    }
    else
    {
        printf("'%'c' is not an alphabet.", ch);
    }

    return 0;
}
```

```
Enter any character: U
'U' is uppercase alphabet.

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

92)WAP TO INPUT WEEK NUMBER AND PRINT WEEK DAY.

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

```
int main()
{
    int weekday;
    printf(" Please Enter the Day Number 1 to 7 (Consider 1= Monday,
and 7 = Sunday) : ");
    scanf("%d", &weekday);

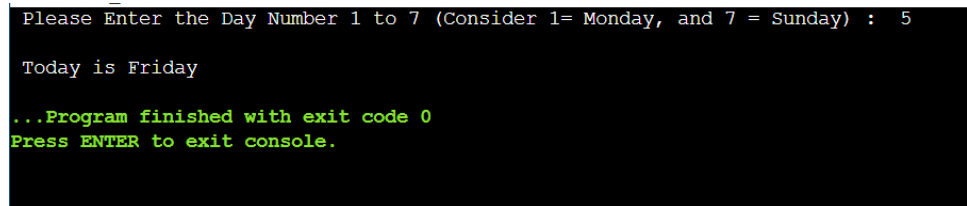
    if (weekday == 1)
    {
        printf("\n Today is Monday");
    }
    else if ( weekday == 2 )
    {
        printf("\n Today is Tuesday");
    }
    else if ( weekday == 3 )
    {
        printf("\n Today is Wednesday");
    }
    else if ( weekday == 4 )
    {
        printf("\n Today is Thursday");
    }
    else if ( weekday == 5 )
    {
        printf("\n Today is Friday");
    }
    else if ( weekday == 6 )
    {
        printf("\n Today is Saturday");
    }
}
```

```

}
else if ( weekday == 7 )
{
    printf("\n Today is Sunday");
}
else
    printf("\n Please enter Valid Number between 1 to 7");

return 0;
}

```



```

Please Enter the Day Number 1 to 7 (Consider 1= Monday, and 7 = Sunday) : 5
Today is Friday
...Program finished with exit code 0
Press ENTER to exit console.

```

93)WAP TO INPUT NUMBER AND PRINT NUMBER OF DAYS IN THAT MONTH.

```

#include <stdio.h>

int main()
{
    int month;
    printf(" Please Enter the Month Number 1 to 12 (Consider 1 =
January, and 12 = December) : ");
    scanf("%d", &month);

    if (month == 1 || month == 3 || month == 5 || month == 7 || month
== 8 || month == 10 || month == 12 )
    {
        printf("\n 31 Days in this Month");
    }
    else if ( month == 4 || month == 6 || month == 9 || month == 11 )
    {
        printf("\n 30 Days in this Month");
    }
    else if ( month == 2 )
    {
        printf("\n Either 28 or 29 Days in this Month");
    }
}

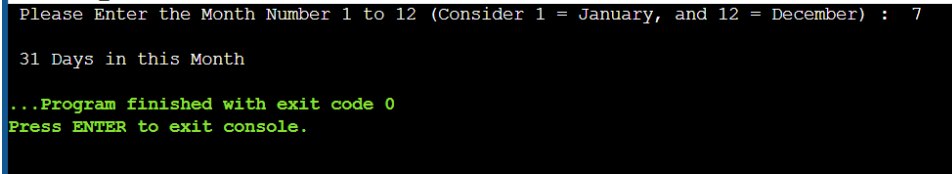
```

```

else
    printf("\n Please enter Valid Number between 1 to 12");

return 0;
}

```



```

Please Enter the Month Number 1 to 12 (Consider 1 = January, and 12 = December) : 7
31 Days in this Month
...Program finished with exit code 0
Press ENTER to exit console.

```

94) WAP TO FIND THE NUMER OF NOTES IN GIVEN AMOUNT.

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

```

int main()
{
    int amount;

    int note1, note2, note5, note10, note20, note50, note100, note500;

    note1 = note2 = note5 = note10 = note20 = note50 = note100 =
note500 = 0;

    printf("Enter amount: ");
    scanf("%d", &amount);

    if(amount >= 500)
    {
        note500 = amount/500;
        amount -= note500 * 500;
    }
    if(amount >= 100)
    {
        note100 = amount/100;
        amount -= note100 * 100;
    }
    if(amount >= 50)
    {
        note50 = amount/50;
        amount -= note50 * 50;
    }
    if(amount >= 20)

```

```

{
    note20 = amount/20;
    amount -= note20 * 20;
}
if(amount >= 10)
{
    note10 = amount/10;
    amount -= note10 * 10;
}
if(amount >= 5)
{
    note5 = amount/5;
    amount -= note5 * 5;
}
if(amount >= 2)
{
    note2 = amount /2;
    amount -= note2 * 2;
}
if(amount >= 1)
{
    note1 = amount;
}

printf("Total number of notes = \n");
printf("500 = %d\n", note500);
printf("100 = %d\n", note100);
printf("50 = %d\n", note50);
printf("20 = %d\n", note20);
printf("10 = %d\n", note10);
printf("5 = %d\n", note5);
printf("2 = %d\n", note2);
printf("1 = %d\n", note1);

return 0;
}

```

```
Enter amount: 5890
Total number of notes =
500 = 11
100 = 3
50 = 1
20 = 2
10 = 0
5 = 0
2 = 0
1 = 0

...Program finished with exit code 0
```

95)WAP TO INPUT ANGLE OF TRIANGLE AND CHECK WETHER ITS IS VALID TRIANGLE OR NOT.

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

```
int main()
```

```
{
```

```
    int angle1, angle2, angle3, sum;
```

```
    /* Input all three angles of triangle */
```

```
    printf("Enter three angles of triangle: \n");
```

```
    scanf("%d%d%d", &angle1, &angle2, &angle3);
```

```
    /* Calculate sum of angles */
```

```
    sum = angle1 + angle2 + angle3;
```

```
    /*
```

```
     * If sum of angles is 180 and
```

```
     * angle1, angle2, angle3 is not 0 then
```

```
     * triangle is valid.
```

```
    */
```

```
    if(sum == 180 && angle1 > 0 && angle2 > 0 && angle3 > 0)
```

```
    {
```

```
        printf("Triangle is valid.");
```

```
    }
```

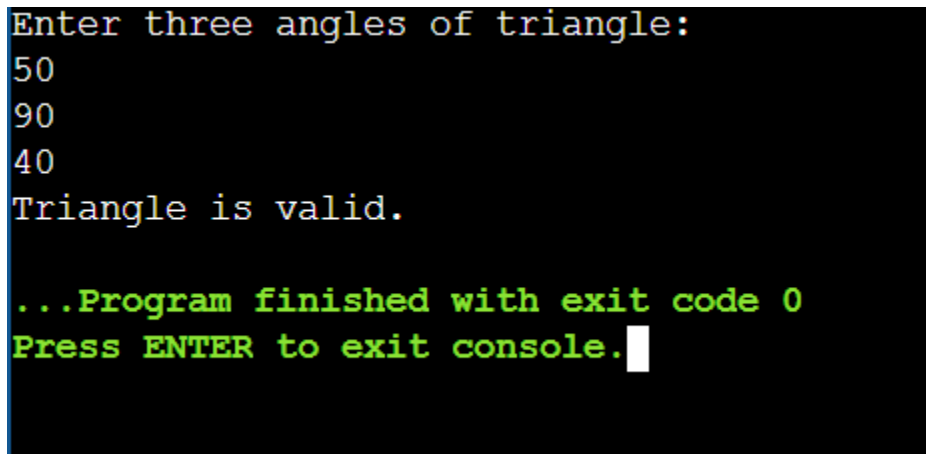
```
    else
```

```
    {
```

```
        printf("Triangle is not valid.");
```

```
    }
```

```
    return 0;
}
```



```
Enter three angles of triangle:
50
90
40
Triangle is valid.

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

96)WAP TO INPUT ALL SIDES OF TRIANGLE AND CHECK WHETHER IT IS A VALID TRIANGLE OR NOT.

```
#include <stdio.h>

int main() {
    int side1, side2, side3;

    printf("Enter Length of Sides of a Triangle\n");
    scanf("%d %d %d", &side1, &side2, &side3);

    if((side1 + side2 > side3)&&(side2 + side3 > side1)
        &&(side3 + side1 > side2)) {
        printf("It is a Valid Triangle\n");
    } else {
        printf("It is an invalid Triangle");
    }

    return 0;
}
```



```
Enter Length of Sides of a Triangle
56
48
60
It is a Valid Triangle

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

97)WAP TO CHECK WHETHER THE TRIANGLE IS EQUILATERAL , ISOSCELEES , OR SCALENE .

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

```
int main()
```

```
{
```

```
    int sidea, sideb, sidec; //are three sides of a triangle
```

```
    /*
```

```
    * Reads all sides of a triangle
```

```
    */
```

```
    printf("Input three sides of triangle: ");
```

```
    scanf("%d %d %d", &sidea, &sideb, &sidec);
```

```
    if(sidea==sideb && sideb==sidec) //check whether all sides are equal
```

```
    {
```

```
        printf("This is an equilateral triangle.\n");
```

```
    }
```

```
    else if(sidea==sideb || sidea==sidec || sideb==sidec) //check whether two sides are equal
```

```
    {
```

```
        printf("This is an isosceles triangle.\n");
```

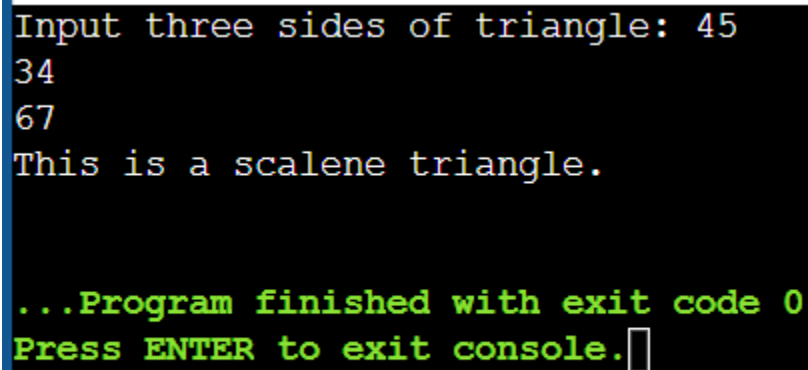
```
    }
```

```

else //check whether no sides are equal
{
    printf("This is a scalene triangle.\n");
}

return 0;
}

```



```

Input three sides of triangle: 45
34
67
This is a scalene triangle.

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

```

97)WAP TO FIND ALL ROOTS OF A QUADRILATERAL EQUATION.

```

#include <math.h>
#include <stdio.h>
int main() {
    double a, b, c, discriminant, root1, root2, realPart, imagPart;
    printf("Enter coefficients a, b and c: ");
    scanf("%lf %lf %lf", &a, &b, &c);

    discriminant = b * b - 4 * a * c;

    // condition for real and different roots
    if (discriminant > 0) {
        root1 = (-b + sqrt(discriminant)) / (2 * a);
        root2 = (-b - sqrt(discriminant)) / (2 * a);
        printf("root1 = %.2lf and root2 = %.2lf", root1, root2);
    }

    // condition for real and equal roots
    else if (discriminant == 0) {
        root1 = root2 = -b / (2 * a);
        printf("root1 = root2 = %.2lf;", root1);
    }
}

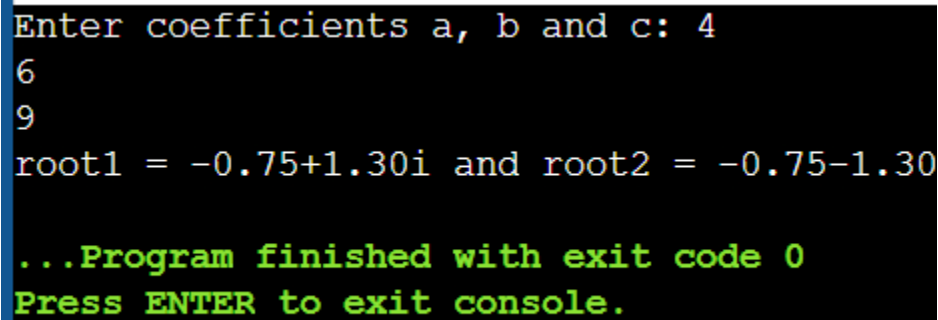
```

```

// if roots are not real
else {
    realPart = -b / (2 * a);
    imagPart = sqrt(-discriminant) / (2 * a);
    printf("root1 = %.2lf+%.2lfi and root2 = %.2f-%.2fi", realPart, imagPart,
realPart, imagPart);
}

return 0;
}

```



```

Enter coefficients a, b and c: 4
6
9
root1 = -0.75+1.30i and root2 = -0.75-1.30i

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

```

98)WAP TO CALCULATE PROFIT OR LOSS.

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

```

int main()
{
    int cp,sp, amt;

    /* Input cost price and selling price of a product */
    printf("Enter cost price: ");
    scanf("%d", &cp);
    printf("Enter selling price: ");
    scanf("%d", &sp);

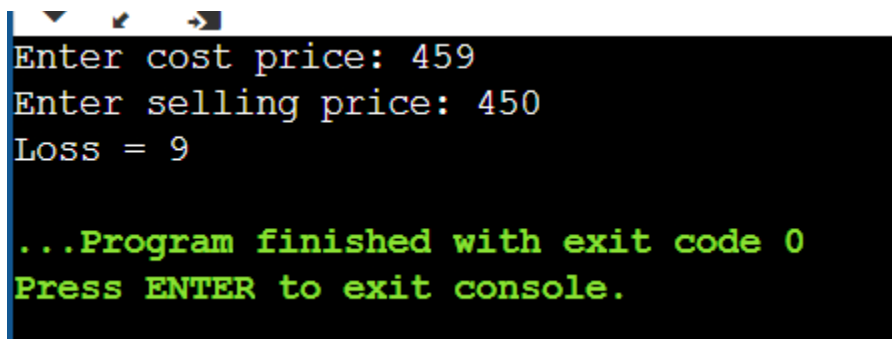
    if(sp > cp)
    {
        /* Calculate Profit */
        amt = sp - cp;
        printf("Profit = %d", amt);
    }
    else if(cp > sp)

```

```
{
    /* Calculate Loss */
    amt = cp - sp;
    printf("Loss = %d", amt);
}
else
{
    /* Neither profit nor loss */
    printf("No Profit No Loss.");
}

return 0;
}
```

Copy

A screenshot of a terminal window with a black background and green text. At the top, there are three small icons: a downward arrow, a leftward arrow, and a rightward arrow. The text in the terminal shows the program's execution: it prompts for 'cost price' (459) and 'selling price' (450), then outputs 'Loss = 9'. Finally, it displays a green message: '...Program finished with exit code 0' and 'Press ENTER to exit console.'

```
Enter cost price: 459
Enter selling price: 450
Loss = 9

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