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## C Programmes Set -1



*All C programmes written here are working and tested with outputs mentioned. Check out them all!*

### List of C Programmes in this post,

1. Hello world in C language.
2. C program to perform addition, subtraction, multiplication, modulo and division. Numbers are assumed to be integers and will be entered by the user.
3. Write a c program to find the area of a triangle.
4. C program for area of circle.
5. C program of Temperature conversion Celsius to Fahrenheit & vice versa.
6. A program which accepts a character from the keyboard and displays it with use of getchar() and putchar().
7. C program to swap two numbers.

8. C Program to Find the Largest Number Among Three Numbers.
9. Program to perform arithmetic operations using switch statement.
10. C program to check whether a character is Capital, Small case letter, digit or special symbol.
11. C Program to Find the Sum of First N Natural Numbers.
12. Maximum and Minimum of two numbers using ternary .
13. C program to multiply and divide a given number by 2 using bit-wise operators.

### ***1. Hello world in C language***

```
//C hello world example
#include <stdio.h>

int main()
{
    printf("Hello world\n");
    return 0;
}
```

#### **Output:**

Hello world

### ***2. C program to perform addition, subtraction, multiplication, modulo and division. Numbers are assumed to be integers and will be entered by the user.***

```
#include <stdio.h>

int main()
{
    int first, second, add, subtract, multiply, modulo;
    float divide;

    printf("Enter two integers\n");
    scanf("%d%d", &first, &second);

    add = first + second;
    subtract = first - second;
    multiply = first * second;
    modulo = first % second;
    divide = first / (float)second;    //typecasting

    printf("Sum = %d\n", add);
    printf("Difference = %d\n", subtract);
    printf("Multiplication = %d\n", multiply);
    printf("Modulo = %d\n", modulo);
    printf("Division = %.2f\n", divide);
}
```

```
    return 0;  
}
```

**Output:**

Enter two integers

15 4

Sum = 19

Difference = 11

Multiplication = 60

Modulo = 3

Division = 3.75

**3. Write a c program to find the area of a triangle.**

```
#include<stdio.h>  
#include<math.h>  
int main()  
{  
    float a,b,c;  
    float s,area;  
    printf("Enter size of each sides of triangle");  
    scanf("%f%f%f",&a,&b,&c);  
  
    s = (a+b+c)/2;  
    area = sqrt(s*(s-a)*(s-b)*(s-c));  
    printf("Area of triangle is: %.3f",area);  
  
    return 0;  
}
```

**output:**

Enter size of each sides of the triangle: 2 4 5

Area of triangle is: 3.800

**4. C program for area of circle**

```
#include<stdio.h>int main()  
{float radius, area;  
printf("\nEnter the radius of Circle : ");  
scanf("%d", &radius);  
area = 3.14 * radius * radius;  
printf("\nArea of Circle : %f", area);  
return (0);  
}
```

**Output**

Enter the radius of Circle : 2.0

Area of Circle : 6.14

**5. C program of Temperature conversion Celsius to Fahrenheit & vice versa**

```
/* Program to convert Centigrade to Fahrenheit and vice versa */
```

```
int main()
{
    int fahr, cel, choice;

    printf("What do you want to do?(1/2)\n1. fahrenheit to Celsius\n2. Celsius
    to Fahrenheit\n");
    scanf("%d", &choice);

    switch(choice)
    {
        case 1:
            printf("Enter fahrenheit value\n");
            scanf("%d", &fahr);
            cel=(fahr-32)*5/9;
            printf("Celsius of %d degrees fahrenheit is %d degrees
            celsius\n\n", fahr, cel);

        case 2:
            printf("Enter celsius value\n");
            scanf("%d", &cel);
            fahr=(1.8*cel) + 32;
            printf("Fahrenheit of %d degrees Celsius is %d degrees
            fahrenheit\n\n", cel, fahr);
    }
}
```

**Output:**

What do you want to do?(1/2)

1. fahrenheit to Celsius

2. Celsius to Fahrenheit

2

Enter celsius value

100

Fahrenheit of 100 degrees Celsius is 212 degrees fahrenheit

***6. A program which accepts a character from the keyboard and displays it with use of getchar() and putchar()***

```
#include<stdio.h>
#include<conio.h>
void main()
{
    char x;
    clrscr();
    x= getchar();
    putchar(x);
    getch();
}
```

**Output:**

D

D

***7. C program to swap two numbers***

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

```
int main()
{
    int x, y, temp;

    printf("Enter the value of x and y\n");
    scanf("%d%d", &x, &y);

    printf("Before Swapping\nx = %d\ny = %d\n",x,y);

    temp = x;
    x     = y;
    y     = temp;

    printf("After Swapping\nx = %d\ny = %d\n",x,y);

    return 0;
}
```

**Output:**

Enter the value of x and y

2 4

Before Swapping

x = 2

y = 4

After Swapping

x = 4

y = 2

### 8. C Program to Find the Largest Number Among Three Numbers

```
/* C program to find largest number using if statement only */

#include <stdio.h>
int main(){
    float a, b, c;
    printf("Enter three numbers: ");
    scanf("%f %f %f", &a, &b, &c);
    if(a>=b && a>=c)
        printf("Largest number = %.2f", a);
    if(b>=a && b>=c)
        printf("Largest number = %.2f", b);
    if(c>=a && c>=b)
        printf("Largest number = %.2f", c);
    return 0;
}
```

**Output:**

Enter three numbers:

2 4 99

Largest number = 99.00

### 9. Program to perform arithmetic operations using switch statement

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

```
#include<stdlib.h>

void main()
{
int ch;
float a,b,res;
clrscr();
printf("Enter two numbers:");
scanf("%f%f",&a,&b);
printf("\nMenu\n1.Addition \n2.Subtraction \n3.Multiplication \n4.Division
\n5.Modulo");
printf("\nEnter your choice:");
scanf("%d",&ch);

switch(ch)
{
case 1: res=a+b;
break;
case 2: res=a-b;
break;
case 3: res=a*b;
break;
case 4: res=a/b;
break;
case 5: res=a%b
break;
default: printf("Dude,Wrong choice!!\nPress any key...");
getch();
exit(0);
}

printf("\nResult=%f",res);
getch();
}
```

**Output:**

Enter two numbers: 6 7  
Menu  
1. Addition  
2.Subtraction  
3.Multiplication  
4.Division  
5.Modulo  
Enter your choice: 4  
Result= 0.857143

***10. C program to check whether a character is Capital, Small case letter, digit or special symbol***

```
#include <stdio.h>
#include<conio.h>
void main()
{
    char ch;
    clrscr();
    printf("Enter one character\n");
    scanf("%c", &ch);
```

```
    if ((ch>='0') && (ch<='9'))
        printf("The character %c is digit\n",ch);
    else if ((ch>='a') && (ch<='z'))
        printf("The character %c is Lower case\n",ch);
    else if ((ch>='A') && (ch<='Z'))
        printf("The character %c is Upper case\n",ch);
    else
        printf("The character %c is other symbol\n",ch);
    getch();
}
```

**Output 1:**

Enter one character

8

The character is digit

**Output 2:**

Enter one character

p

The character is Lower case

**11. C Program to Find the Sum of First N Natural Numbers**

```
/* C program to find the sum of 'N' natural numbers*/

#include <stdio.h>

void main()
{
    int i, num, sum = 0;

    printf("Enter an integer number \n");
    scanf ("%d", &num);

    for (i = 1; i <= num; i++)
    {
        sum = sum + i;
    }

    printf ("Sum of first %d natural numbers = %d\n", num, sum);
}
```

**Output:**

Enter an integer number

1300

Sum of first 1300 natural numbers = 845650

### 12. Maximum and Minimum of two numbers using ternary

```
#include <stdio.h>
#include<conio.h>
void main()
{
    int x,y,max,min;
    clrscr();
    printf("Give two integer numbers\n");
    scanf("%d %d", &x,&y);

    max=(x>y)? x:y ;
    min=(x<y)? x:y;

    printf("Maximum of %d and %d is = %d\n",x,y,max);
    printf("Minimum of %d and %d is = %d\n",x,y,min);
    getch();
}
```

**Output:**

Give two integer numbers

2 7

Maximum of 2 and 7 is = 7

Minimum of 2 and 7 is = 2

### 13. C program to multiply and divide a given number by 2 using bit-wise operators

```
#include <stdio.h>
#include<conio.h>
void main()
{
    int x;
    int mul,div;
    clrscr();

    printf("Give one integer number\n");
    scanf("%d",&x);

    mul = x << 1; /*left shift*/
    div = x >>1; /*right shift*/

    printf("Multiplication of %d by 2 = %d\n",x,mul);
    printf("Division of %d by 2 = %d\n",x,div);
    getch();
}
```

**Output:**

Give one integer number

6

Multiplication of 6 by 2 = 12

Division of 6 by 2 = 3

*All C programmes written here are working and tested. Check out them all!*

*Stay Amazed, Stay Geeky,*

*Jay Akbari (Pixmercy)*