

## C PROGRAMS WITH SOLUTION

//1. C Program to check if given number is divisible by 5

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

```
int main()
```

```
{
```

```
    int num;
```

```
    printf("Enter a number");
```

```
    fflush(stdout);
```

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

```
    if(num%5==0)
```

```
        printf("Number is divisible by 5");
```

```
    else
```

```
        printf("Number is not divisible by 5");
```

```
    return 0;
```

```
}
```

```
*****
```

//2. C Program to Accept two Integers and Check if they are Equal

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

```
int main()
```

```
{
```

```
    int num1,num2;
```

```
    printf("Enter two numbers");
```

```
    fflush(stdout);
```

```
    scanf("%d %d",&num1,&num2);
```

```
    if(num1==num2)
```

```
        printf("Numbers are equal");
```

```
    else
```

```
        printf("Numbers are not equal");
```

```
    return 0;
```

```
}
```

```
*****
```

//3. C Program to Check Whether a Number is Even or Odd

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

```

int main()
{
    int num;
    printf("Enter a number");
    fflush(stdout);
    scanf("%d",&num);
    if(num%2==0)
        printf("Number is even");
    else
        printf("Number is odd");
    return 0;
}

```

\*\*\*\*\*

//4. C Program to Check Whether entered year is leap year

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

```

int main()
{
    int num;
    printf("Enter 4 digit year");
    fflush(stdout);
    scanf("%d",&num);
    if(num%4==0)
        printf("%d is leap year", num);
    else
        printf("%d is not leap year", num);
    return 0;
}

```

\*\*\*\*\*

//5. Write a C program to compute the perimeter and area of a circle

```

int main()
{
    float radius,area,perimeter;

```

```

printf("Enter radius of circle");
fflush(stdout);
scanf("%f",&radius);
area=3.14*radius*radius;
perimeter=2*3.14*radius;
printf("\nArea of circle with radius %4.1f is %6.2f",radius,area);
printf("\nPerimeter of circle with radius %4.1f is %6.2f",radius,perimeter);
return 0;
}

```

\*\*\*\*\*

//6. Write a C program to compute area of triangle.

```

int main()
{
float height, length,area;
printf("Enter height and length of triangle");
fflush(stdout);
scanf("%f %f",&height,&length);
area=(length*height)/2;
printf("\nArea of triangle with length %4.1f and height %4.1f is %6.2f",length,height,area);
return 0;
}

```

\*\*\*\*\*

//7. Write a C program to compute area of rectangle

```

int main()
{
float height, length,area;
printf("Enter height and length of rectangle");
fflush(stdout);
scanf("%f %f",&height,&length);
area=(length*height);
printf("\nArea of rectangle with length %4.1f and height %4.1f is %6.2f",length,height,area);
return 0;
}

```

```
*****
```

```
//8. Write a C program to compute area of square
```

```
int main()
{
float side,area;
printf("Enter side of square");
fflush(stdout);
scanf("%f",&side);
area=(side*side);
printf("\nArea of square with side %4.1f is %6.2f",side,area);
return 0;
}
```

```
*****
```

```
//9. Write a C program that prints all even numbers, and their sum and average between
//given range.
```

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

```
int main()
{
int i,start,end,sum=0,count=0;
float average;
printf("Enter start and end range");
fflush(stdout);
scanf("%d %d",&start,&end);
printf("\nEven numbers between %d and %d are\n",start,end);
for(i=start;i<=end;i++)
{
if(i%2==0)
{
printf("%d\t",i);
sum=sum+i;
count++;
}
}
```

```

}
average=(float)sum/count;
printf("\nCount of even numbers between %d and %d is %d",start,end,count);
printf("\nSum of even numbers between %d and %d is %d",start,end,sum);
printf("\nAverage of even numbers between %d and %d is %5.2f",start,end,average);
return 0;
}

```

\*\*\*\*\*

//10. Write a C program that prints to count, sum and average negative numbers from user //entered numbers.

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

```
int main()
```

```
{
```

```
int i,num[10],sum=0,count=0;
```

```
float average;
```

```
printf("enter 10 numbers(+ve/-ve)");
```

```
fflush(stdout);
```

```
for(i=0;i<10;i++)
```

```
{
```

```
scanf("%d",&num[i]);
```

```
}
```

```
for(i=0;i<10;i++)
```

```
{
```

```
if(num[i]<0)
```

```
{
```

```
sum=sum+num[i];
```

```
count++;
```

```
}
```

```
}
```

```
average=(float)sum/count;
```

```

printf("Numbers entered by user are\n");
for(i=0;i<10;i++)
    printf("%d\t",num[i]);
printf("\nCount of negative numbers is %d",count);
printf("\nSum of -ve numbers is %d",sum);
printf("\nAverage of -ve numbers is %5.2f",average);
return 0;
}

```

\*\*\*\*\*

//11. Write a C program that prints to count, sum and average negative numbers from user //entered numbers.

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

```
int main()
```

```
{
```

```
    int i,num[10],sum=0,count=0;
```

```
    float average;
```

```
    printf("enter 10 numbers(+ve/-ve)");
```

```
    fflush(stdout);
```

```
    for(i=0;i<10;i++)
```

```
    {
```

```
        scanf("%d",&num[i]);
```

```
    }
```

```
    for(i=0;i<10;i++)
```

```
    {
```

```
        if(num[i]>0)
```

```
        {
```

```
            sum=sum+num[i];
```

```
            count++;
```

```
        }
```

```
    }
```

```
    average=(float)sum/count;
```

```

printf("Numbers entered by user are\n");
for(i=0;i<10;i++)
    printf("%d\t",num[i]);
printf("\nCount of +ve numbers is %d",count);
printf("\nSum of +ve numbers is %d",sum);
printf("\nAverage of +ve numbers is %5.2f",average);
return 0;
}

```

\*\*\*\*\*

//12. Write a C program to convert a given integer

// (in seconds) to hours, minutes and seconds.

```

int main() {
    int sec, h, m, s;
    printf("Input seconds: ");
    fflush(stdout);
    scanf("%d", &sec);
    h = (sec/3600);
    m = (sec -(3600*h))/60;
    s = (sec -(3600*h)-(m*60));
    printf("H:M:S - %d:%d:%d\n",h,m,s);
    return 0;
}

```

\*\*\*\*\*

//13. Write a C program to convert a given integer (in days)

//to years, months and days, assumes that all months have 30 days

//and all years have 365 days.

```

int main() {
    int ndays, y, m, d;
    printf("Input no. of days: ");
    fflush(stdout);
    scanf("%d", &ndays);
    y = (int) ndays/365;

```

```

    ndays = ndays-(365*y);
    m = (int)ndays/30;
    d = (int)ndays-(m*30);
    printf(" %d Year(s) \n %d Month(s) \n %d Day(s)", y, m, d);
    return 0;
}

```

\*\*\*\*\*

```

//14. Write a C program that reads three floating values
// and check if it is possible to make a triangle with them.
// Also calculate the perimeter of the triangle
// if the said values are valid.

```

```

int main() {
    float x, y, z, P, A;
    printf("\nInput the first number: ");
    fflush(stdout);
    scanf("%f", &x);
    printf("\nInput the second number: ");
    fflush(stdout);
    scanf("%f", &y);
    printf("\nInput the third number: ");
    fflush(stdout);
    scanf("%f", &z);
    if(x < (y+z) && y < (x+z) && z < (y+x))
    {
        P = x+y+z;
        printf("\nPerimeter = %.1f\n", P);
    }
    else
    {
        printf("Not possible to create a triangle..!");
    }
}

```



```
}
```

```
*****
```

```
//15. Write a C program to read a password until it is correct.
```

```
// For wrong password print "Incorrect password" and
```

```
// for correct password print "Correct password" and
```

```
// quit the program. The correct password is 1234.
```

```
int main() {  
    int pass, x=10;  
    while (1)  
    {  
        printf("\nInput the password: ");  
        fflush(stdout);  
        scanf("%d",&pass);  
        if (pass==1234)  
        {  
            printf("Correct password");  
            exit(0);  
        }  
        else  
        {  
            printf("Wrong password, try another");  
        }  
        printf("\n");  
    }  
    return 0;  
}
```

```
*****
```

```
//16. C program to convert temperature from Celsius to Fahrenheit
```

```
int main()  
{  
    float temp_f; //degrees fahrenheit
```

```

float temp_c; // degrees centigrade
printf("Input a temperature (in Centigrade): ");
fflush(stdout);
scanf("%f", &temp_c);
temp_f = ((9.0 / 5.0) * temp_c) + 32.0;
printf("%.2f Centigrade = %.2f Fahrenheit.\n", temp_c,temp_f);
return(0);
}

```

\*\*\*\*\*

//17. C program to convert temperature from Fahrenheit to Celsius

```

int main()
{
float temp_f; // degrees fahrenheit
float temp_c; // degrees centigrade
printf("Input a temperature (in Fahrenheit): ");
fflush(stdout);
scanf("%f",&temp_f);
temp_c = ((5.0 / 9.0) * temp_f) - 32.0;
printf("%.2f Fahrenheit = %.2f Centigrade.\n", temp_f,temp_c);
return(0);
}

```

\*\*\*\*\*

//18. Write a C program that calculates the volume of a sphere.

```

int main()
{
float radius,volume;
const float PI = 3.141592;
printf("Input the radius of the sphere : ");
fflush(stdout);
scanf("%f", &radius);
volume = (4.0 / 3.0) * PI * (radius * radius * radius);
}

```

```

// volumn=(4/3) * pi * r^3
printf("The volume of sphere with radius %.2f is %.4f.", radius,volume);
return(0);
}

```

\*\*\*\*\*

//19. Write a C program that takes hours and minutes as input,  
// and calculates the total number of minutes.

```

int main()
{
int hrs,mins,tot_mins;
printf("Input hours: ");
fflush(stdout);
scanf("%d",&hrs);

printf("Input minutes: ");
fflush(stdout);
scanf("%d",&mins);
tot_mins = mins + (hrs * 60);
printf("%d Hrs. %d minutes = %d minutes",hrs,mins,tot_mins);
return(0);
}

```

\*\*\*\*\*

//20. Write a C program to find the third angle of a triangle if two angles are given.

```

int main()
{
int ang1, ang2, ang3;
printf("Input two angles of triangle: ");
fflush(stdout);
scanf("%d %d", &ang1, &ang2);
ang3 = 180 - (ang1 + ang2); // Calculates the third angle
printf("Third angle of the triangle : %d", ang3);
}

```

```

    return 0;
}
*****

//21. Write a C program to read the age of a candidate
// and determine whether it is eligible for casting
// his/her own vote.

int main()
{
    int vote_age;

    printf("Input the age of the candidate : ");
    fflush(stdout);
    scanf("%d",&vote_age);
    if (vote_age<18)
    {
        printf("Sorry, You are not eligible to caste your vote.\n");
        printf("You would be able to caste your vote after %d year.",18-vote_age);
    }
    else
        printf("Congratulation! You are eligible for casting your vote.");
    return 0;
}
*****

```

```

//22. Write a C program to accept the height of a person in centimeter
// and categorize the person according to their height.

```

```

int main()
{
    float PerHeight;
    printf("Input the height of the person (in centimetres) :\n");
    fflush(stdout);

```

```

scanf("%f", &PerHeight);
if (PerHeight < 150.0)
    printf("The person is Dwarf. \n");
else if ((PerHeight >= 150.0) && (PerHeight <= 165.0))
    printf("The person is average heighted. \n");
else if ((PerHeight >= 165.0) && (PerHeight <= 195.0))
    printf("The person is taller. \n");
else
    printf("Abnormal height.\n");
return 0;
}

```

\*\*\*\*\*

//23. Write a C program to check whether a character is an alphabet,  
// digit or special character.

```

int main()
{
    char sing_ch;
    printf("Input a character: ");
    fflush(stdout);
    scanf("%c", &sing_ch);

    // Checks whether it is an alphabet
    if(sing_ch>='a' && sing_ch<='z')
    {
        printf("This is a capital letter alphabet.\n");
    }
    else if (sing_ch>='A' && sing_ch<='Z')
    {
        printf("This is a small letter alphabet.\n");
    }
    else if(sing_ch>='0' && sing_ch<='9') whether it is digit
    {

```

```

    printf("This is a digit.\n");
}
else
{
    printf("This is a special character.\n");
}
return 0;
}

```

\*\*\*\*\*

//24. Program to swap two numbers without using third variable

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

```
void main()
```

```

{
    int a,b;
    printf("Enter two no\n");
    fflush(stdout);
    scanf("%d %d",&a,&b);
    printf("Before swapping a=%d b=%d",a,b);
    a=a+b;
    b=a-b;
    a=a-b;
    printf("\nAfter swapping a=%d b=%d",a,b);
    return 0;
}

```

\*\*\*\*\*

//26. C Program to find largest of three numbers

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

```
int main()
```

```

{
    int num1,num2,num3;
    printf("Enter three numbers");
    fflush(stdout);
    scanf("%d %d %d",&num1,&num2,num3);
}

```

```

if(num1>num2 && num1> num3)
    printf("%d is largest",num1);
else if(num2>num1 && num2> num3)
    printf("%d is largest",num2);
else if(num3>num1 && num3> num2)
    printf("%d is largest",num3);
return 0;
}

```

\*\*\*\*\*

```

//27. Write a C program that reads an integer
//and check the specified range where it belongs.
//Print an error message if the number is negative and greater than 80.

```

```

#include<stdio.h>
int main()
{
    int num;
    printf("Enter a number");
    fflush(stdout);
    scanf("%d",&num);
    if(num<0 || num>80)
        printf("%d is out of range",num);
    else if(num>=0 &&num<=40)
        printf("%d is between 0 to 40",num);
    else if(num>=41 &&num<=80)
        printf("%d is between 41 to 80",num);
    return 0;
}

```

\*\*\*\*\*

```

//28. Program to Calculate the Sum of first 50 Natural Numbers

```

```

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

```

```

int i, sum=0;
for(i=1;i<=50;i++)
    sum=sum+i;
printf("sum of first 50 natural numbers is %d",sum);
return 0;
}

```

\*\*\*\*\*

//29. C Program to Display Characters from A to Z Using loop

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

```
int main()
```

```
{
```

```
    int i, sum=0;
```

```
    printf("\n*****A to Z alphabets*****\n");
```

```
    for(i=65;i<=90;i++)
```

```
        printf("%c\t",i);
```

```
    printf("\n*****a to z alphabets*****\n");
```

```
    for(i=97;i<=122;i++)
```

```
        printf("%c\t",i);
```

```
    return 0;
```

```
}
```

\*\*\*\*\*

//30.C program that prints all numbers divisible by 7 between 1 and 50 (inclusive).

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

```
int main()
```

```
{
```

```
    int i, sum=0;
```

```
    printf("\n****Numbers divisible by 7 between 1 to 50****\n");
```

```
    for(i=1;i<=50;i++)
```

```
    {
```

```
        if(i%7==0)
```

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



```
}
return 0;
}
*****
```

//31. Write a C program that prints table of number given by user.

```
#include<stdio.h>
int main()
{
    int i,num;
    printf("\nEnter a number to display table");
    fflush(stdout);
    scanf("%d",&num);
    printf("*****Table of %d is*****\n",num);
    for(i=1;i<=10;i++)
    {
        printf("%d\t",num*i);
    }
    return 0;
}
```

\*\*\*\*\*

//32. C program to print ASCII Table.

```
#include<stdio.h>
int main()
{
    int i;
    printf("\n*****ASCII Table*****\n");
    for(i=0;i<=255;i++)
        printf("%d = %c\n",i,i);
    return 0;
}
```

\*\*\*\*\*

//33. Write a C program to calculate the sum of all number divisible by 17  
//between two given integer numbers.

```
#include<stdio.h>
int main()
{
    int i,start,end;
    printf("Enter start and end range");
    fflush(stdout);
    scanf("%d %d",&start,&end);
    printf("\nNumbers divisible by 17 between %d and %d are\n",start,end);
    for(i=start;i<=end;i++)
    {
        if(i%17==0)
            printf("%d\t",i);
    }
    return 0;
}
```

\*\*\*\*\*

//33. Write a C program that prints all odd numbers, and their sum and average between given range.

```
#include<stdio.h>
int main()
{
    int i,start,end,sum=0,count=0;
    float average;
    printf("Enter start and end range");
    fflush(stdout);
    scanf("%d %d",&start,&end);
    printf("\nOdd numbers between %d and %d are\n",start,end);
    for(i=start;i<=end;i++)
    {
```

```
    if(i%2!=0)
    {
        printf("%d\t",i);
        sum=sum+i;
        count++;
    }

}

average=(float)sum/count;
printf("\nCount of odd numbers between %d and %d is %d",start,end,count);
printf("\nSum of odd numbers between %d and %d is %d",start,end,sum);
printf("\nAverage of odd numbers between %d and %d is %5.2f",start,end,average);
return 0;
}
*****
```