

// 1. C program to convert temperature from Celsius to Fahrenheit and vice versa.

```
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);
    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);
}
```

//2. Write a program in C which is a Menu-Driven Program

//to compute the area of the various geometrical shape.

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

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

```
int main()
```

```
{
```

```
    int choice;
```

```
    float area,s,l;
```

```
    float pi=3.14;
```

```
printf("*****MENU*****\n1.Circle\n2.Triangle\n3.Square\n4.Recta\nngle\nEnter your choice\n");
```

```
    fflush(stdout);
```

```
scanf("%d",&choice);
switch(choice)
{
    case 1:
        printf("Enter radius of circle");
        fflush(stdout);
        scanf("%f",&s);
        area=pi*s*s;
        printf("\nArea of circle is %5.2f",area);
        break;
    case 2:
        printf("Enter len and height of triangle");
        fflush(stdout);
        scanf("%f %f",&l,&s);
        area=0.5*l*s;
        printf("\nArea of triangle is %5.2f",area);
        break;
    case 3:
        printf("Enter size of square");
        fflush(stdout);
        scanf("%f",&s);
        area=s*s;
        printf("\nArea of square is %5.2f",area);
        break;
    case 4:
        printf("Enter len and height of rectangle");
        fflush(stdout);
        scanf("%f %f",&l,&s);
        area=l*s;
        printf("\nArea of triangle is %5.2f",area);
        break;
```

```

        default:
            exit(0);
    }
return 0;
}
*****

```

//3. C program to Find all Roots of a Quadratic equation

```

#include <stdio.h>
#include <math.h>
void main()
{
    int a,b,c,d;
    float x1,x2;
    printf("Input the value of a,b & c : ");
    fflush(stdout);
    scanf("%d %d %d",&a,&b,&c);
    d=b*b-4*a*c;
    if(d==0)
    {
        printf("Both roots are equal.\n");
        x1=-b/(2.0*a);
        x2=x1;
        printf("First Root Root1= %f\n",x1);
        printf("Second Root Root2= %f\n",x2);
    }
    else if(d>0)
    {
        printf("Both roots are real and diff-2\n");
        x1=(-b+sqrt(d))/(2*a);
        x2=(-b-sqrt(d))/(2*a);
        printf("First Root Root1= %f\n",x1);
        printf("Second Root root2= %f\n",x2);
    }
}

```

```

    }
    else
        printf("Root are imaginary;\nNo Solution. \n");
}
*****
****

```

//4. C Program to enter a number and display day of week

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

```
int main()
```

```
{
```

```
    int wday;
```

```
    printf("Enter a number (1 for Mon/7 for Sun)\n");
```

```
    fflush(stdout);
```

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

```
    switch(wday)
```

```
{
```

```
    case 1:
```

```
        printf("%d represents Monday",wday);
```

```
        break;
```

```
    case 2:
```

```
        printf("%d represents Tuesday",wday);
```

```
        break;
```

```
    case 3:
```

```
        printf("%d represents Wednesday",wday);
```

```
        break;
```

```
    case 4:
```

```
        printf("%d represents Thursday",wday);
```

```
        break;
```

```
    case 5:
```

```
        printf("%d represents Friday",wday);
```

```
        break;
```

```
    case 6:
```

```

        printf("%d represents Saturday",wday);
        break;
    case 7:
        printf("%d represents Sunday",wday);
        break;
    default:
        printf("Please enter a valid number");
    }
    return 0;
}
*****

```

//5. C Program to enter a number and display name of month

```

#include<stdio.h>
int main()
{
    int month;
    printf("Enter a number (1 for Jan/12 for Dec)\n");
    fflush(stdout);
    scanf("%d",&month);
    switch(month)
    {
        case 1:
            printf("%d represents Jan",month);
            break;
        case 2:
            printf("%d represents Feb",month);
            break;
        case 3:
            printf("%d represents March",month);
            break;
        case 4:
            printf("%d represents April",month);

```

```

        break;
case 5:
    printf("%d represents May",month);
    break;
case 6:
    printf("%d represents June",month);
    break;
case 7:
    printf("%d represents July",month);
    break;
case 8:
    printf("%d represents Aug",month);
    break;
case 9:
    printf("%d represents Sept",month);
    break;
case 10:
    printf("%d represents Oct",month);
    break;
case 11:
    printf("%d represents Nov",month);
    break;
case 12:
    printf("%d represents Dec",month);
    break;
default:
    printf("Please enter a valid number");
}
return 0;
}
*****

```

//6. C Program to Make a Calculator using switch statement

```

#include<stdio.h>
#include<stdlib.h>
int main()
{
    int choice,num1,num2,ans;
    float fans;
    do
    {
        printf("\n*****\n1.Add\n2.Sub\n3.Mul\n4.Div\n5.Remainder\n6.Exit\n*****
        *****\nEnter your choice\n");

        fflush(stdout);
        scanf("%d",&choice);
        printf("Enter two numbers\n");
        fflush(stdout);
        scanf("%d %d",&num1,&num2);
        switch(choice)
        {
            case 1:
                ans=num1+num2;
                printf("%d + %d = %d",num1,num2,ans);
                break;
            case 2:
                ans=num1-num2;
                printf("%d - %d = %d",num1,num2,ans);
                break;
            case 3:
                ans=num1*num2;
                printf("%d * %d = %d",num1,num2,ans);
                break;
            case 4:
                fans=num1/(float)num2;
                printf("%d / %d = %5.2f",num1,num2,fans);

```

```

        break;
    case 5:
        ans=num1%num2;
        printf("%d MOD %d = %d",num1,num2,ans);
        break;
    case 6:
        exit(0);
    default:
        printf("Please enter valid choice");
    }
}while(1);
return 0;
}

```

//7. C Program to enter marks of 5 subjects of 5 students.

//Calculate total, percentage.

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

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

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

```
int main()
```

```
{
```

```
    char name[5][10];
```

```
    int marks[5][5];
```

```
    float per[5];
```

```
    int total[5]={0,0,0,0,0};
```

```
    int i,j;
```

```
    for(i=0;i<5;i++)
```

```
    {
```

```
        printf("Enter name and marks of 5 subjects for %d student",i+1);
```

```
        fflush(stdout);
```

```
        scanf("%s",name[i]);
```

```
        for(j=0;j<5;j++)
```



```

    {
        scanf("%d",&marks[i][j]);
        if(marks[i][j]>100)
        {
            marks[i][j]=marks[i][j]% 100;
        }
        total[i]=total[i]+marks[i][j];
    }
    per[i]=total[i]/5.0;
}
printf("Details entered are\nName\tTotal\tPercent\n");
for(i=0;i<5;i++)
{
    printf("%s\t",name[i]);
    printf("%d\t",total[i]);
    printf("%4.2f\t",per[i]);
    printf("\n");
}
}

```

//8. C Program to enter marks of 5 subjects of a student.

//Calculate percentage and display grade.

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

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

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

```
int main()
```

```
{
```

```
    char name[10];
```

```
    int marks[5];
```

```
    float per;
```

```
    int total=0;
```

```
    int i,j;
```

```

printf("Enter name and marks of 5 subjects\n");
fflush(stdout);
scanf("%s",name);
for(i=0;i<5;i++)
{
    scanf("%d",&marks[i]);
    if(marks[i]>100)
    {
        marks[i]=marks[i]%100;
    }
    total=total+marks[i];
}
per=total/5.0;

printf("Details entered are\nName: %s\nTotal: %d out of
500\nPercent:%4.2f\n",name,total,per);
if(per<40)
    printf("Sorry! Your grade is poor. Better luck next time");
else if(per>=40 && per<50)
    printf("You are pass with second class. Somehow you managed");
else if (per>=50 && per<60)
    printf("You are pass with higher second class. Keep trying and you can score more");
else if (per>=60 && per<66)
    printf("You are pass with first class. Good Luck!!");
else if (per>=66)
    printf("You are pass with Distinction. Congratulations!!");
}

```

//9. 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;
}

```

//10. C Program to Find Factorial of a Number

```

#include<stdio.h>
#include<stdlib.h>
int main()
{
    int fact=1,i,num;

```

```

printf("Enter a number to find factorial");
fflush(stdout);
scanf("%d",&num);
for(i=1;i<=num;i++)
    fact=fact*i;
printf("Factorial of %d is %d",num,fact);
return 0;
}

```

//11. C Program to Generate Multiplication Table

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;
}

```

//12. C Program to Display Fibonacci Sequence

```

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

```

```

int fact=1,i,num;
int a=0,b=1,c;
printf("How many terms you want in series");
fflush(stdout);
scanf("%d",&num);
printf("Fibonacci series is\n%d\t%d\t",a,b);
for(i=1;i<num-1;i++)
{
c=a+b;
printf("%d\t",c);
a=b;
b=c;
}
return 0;
}

```

//13. C Program to Count Number of Digits in an Integer

```

#include<stdio.h>
#include<stdlib.h>
int main()
{
int count=0,num,num1;
printf("Enter a number");
fflush(stdout);
scanf("%d",&num);
num1=num;
while(num>0)
{
num=num/10;
count++;
}
printf("Number of digits in %d is %d",num1,count);

```

```

    return 0;
}
*****

//14. C Program to Reverse a Number
#include<stdio.h>
#include<stdlib.h>
int main()
{
    int rev=0,digit,num,num1;
    printf("Enter a number");
    fflush(stdout);
    scanf("%d",&num);
    num1=num;
    while(num>0)
    {
        digit=num%10;
        num=num/10;
        rev=rev*10+digit;
    }
    printf("Reverse of digits %d is %d",num1,rev);
    return 0;
}
*****

//15. C Program to Check Whether a Number is Palindrome or Not
#include<stdio.h>
#include<stdlib.h>
int main()
{
    int rev=0,digit,num,num1;
    printf("Enter a number");
    fflush(stdout);

```

```

scanf("%d",&num);
num1=num;
while(num>0)
{
    digit=num%10;
    num=num/10;
    rev=rev*10+digit;
}
if(num1==rev)
    printf("Number is palindrome");
else
    printf("Number is not palindrome");
return 0;
}

```

//16. C Program to Check Armstrong Number.

//Example is $371=(3*3*3)+(7*7*7)+(1*1*1)$

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

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

```
int main()
```

```

{
    int arm=0,digit,num,num1;
    printf("Enter a number");
    fflush(stdout);
    scanf("%d",&num);
    num1=num;
    while(num>0)
    {
        digit=num%10;
        num=num/10;
        arm=arm+digit*digit*digit;
    }
}

```

```

    if(num1==arm)
        printf("Number is armstrong");
    else
        printf("Number is not armstrong");
    return 0;
}
*****

```

//17. C Program to Check Whether a Number is Prime or Not

```

#include<stdio.h>
#include<stdlib.h>
int main()
{
    int i,num;
    printf("Enter a number");
    fflush(stdout);
    scanf("%d",&num);
    for(i=2;i<num;i++)
    {
        if(num%i==0)
            break;
    }
    if(num==i)
        printf("Number is prime");
    else
        printf("Number is not prime");
    return 0;
}
*****

```

//18. C Program to Calculate the Power of a Number

```

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

```



```

{
    int i,num,pow,result=1;
    printf("Enter a number and its power");
    fflush(stdout);
    scanf("%d %d",&num,&pow);
    for(i=1;i<=pow;i++)
    {
        result=result*num;
    }
    printf("%d ^ %d =%d",num,pow,result);
    return 0;
}

```

//19. 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;
}

```

//20. 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;
}

```

//21. C Program to find Sum of Digits of a Number

```

#include<stdio.h>
#include<stdlib.h>
int main()
{
    int sum=0,digit,num,num1;
    printf("Enter a number");
    fflush(stdout);
    scanf("%d",&num);
    num1=num;
    while(num>0)
    {
        digit=num%10;
        num=num/10;
        sum=sum+digit;
    }
    printf("Sum of digits of %d is %d",num1,sum);
    return 0;
}

```

//22. C Program to Calculate Average of given numbers

//using Arrays

#include<stdio.h>

#include<stdlib.h>

int main()

{

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

printf("Enter 10 numbers in array");

fflush(stdout);

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

{

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

sum=sum+num[i];

}

printf("Sum of numbers in array is %d",sum);

return 0;

}

//23. C Program to Find Largest Element of an Array

#include<stdio.h>

#include<stdlib.h>

int main()

{

int large=0,num[10],i;

printf("Enter 10 numbers in array");

fflush(stdout);

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

{

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

if(large<num[i])

large=num[i];

}

```
        printf("largest numbers in array is %d",large);
return 0;
}
*****
```

//24. C Program to Calculate Sum & Average of an Array

```
#include<stdio.h>
#include<stdlib.h>
int main()
{
    int sum=0,num[10],i;
    float avg=0;
    printf("Enter 10 numbers in array");
    fflush(stdout);
    for(i=0;i<10;i++)
    {
        scanf("%d",&num[i]);
        sum=sum+num[i];
    }
    avg=sum/10.0;
    printf("Sum is %d and average is %5.2f",sum,avg);
    return 0;
}
*****
```

//25. C Program to Put Even & Odd Elements of an Array in 2 Separate Arrays

```
#include<stdio.h>
#include<stdlib.h>
int main()
{
    int num[10],i,even[10],odd[10],e=0,o=0;
    printf("Enter 10 numbers in array");
    fflush(stdout);
    for(i=0;i<10;i++)
```

```

{
    scanf("%d",&num[i]);
    if(num[i]%2==0)
    {
        even[e]=num[i];
        e++;
    }
    else
    {
        odd[o]=num[i];
        o++;
    }
}

printf("\nEven elements in array are\n");
for(i=0;i<e;i++)
    printf("%d\t",even[i]);
printf("\nOdd elements in array are\n");
for(i=0;i<o;i++)
    printf("%d\t",odd[i]);
return 0;
}
*****

```

//26. C Program to Sort the Array in an Ascending Order

```

#include<stdio.h>
#include<stdlib.h>
int main()
{
    int num[10],i,j,temp;
    printf("Enter 10 numbers in array");
    fflush(stdout);
    for(i=0;i<10;i++)

```

```

    {
        scanf("%d",&num[i]);
    }
printf("\nElements in array before sorting are\n");
for(i=0;i<10;i++)
    printf("%d\t",num[i]);

for(i=0;i<10;i++)
{
for(j=0;j<10;j++)
{
    if(num[i]<num[j])
    {
        temp=num[i];
        num[i]=num[j];
        num[j]=temp;
    }
}
}
printf("\nElements in array after sorting are\n");
for(i=0;i<10;i++)
    printf("%d\t",num[i]);
return 0;
}
*****

```

//27. C Program to Sort the Array in an Descending Order

```

#include<stdio.h>
#include<stdlib.h>
int main()
{
    int num[10],i,j,temp;
    printf("Enter 10 numbers in array");

```

```

fflush(stdout);
for(i=0;i<10;i++)
{
    scanf("%d",&num[i]);
}
printf("\nElements in array before sorting are\n");
for(i=0;i<10;i++)
    printf("%d\t",num[i]);

for(i=0;i<10;i++)
{
    for(j=0;j<10;j++)
    {
        if(num[i]>num[j])
        {
            temp=num[i];
            num[i]=num[j];
            num[j]=temp;
        }
    }
}
printf("\nElements in array after sorting are\n");
for(i=0;i<10;i++)
    printf("%d\t",num[i]);
return 0;
}
*****

```

//28. C Program to Read an Array and Search for an Element

```

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

```

```

int num[10],i,search,flag=0;
printf("Enter 10 numbers in array");
fflush(stdout);
for(i=0;i<10;i++)
{
    scanf("%d",&num[i]);
}
printf("Enter number to search");
fflush(stdout);
scanf("%d",&search);
for(i=0;i<10;i++)
{
    if(num[i]==search)
    {
        printf("%d found at position %d\n",search,i+1);
        flag=1;
    }
}
if(flag==0)
    printf("%d is not available in array\n",search);
return 0;
}
*****

//29. C Program to Print the Number of Odd & Even Numbers in an Array
#include<stdio.h>
#include<stdlib.h>
int main()
{
    int num[10],i,even=0,odd=0;
    printf("Enter 10 numbers in array");
    fflush(stdout);
    for(i=0;i<10;i++)

```



```

{
    scanf("%d",&num[i]);
    if(num[i]%2==0)
    {
        even++;
    }
    else
    {
        odd++;
    }
}

printf("Elements in array are\n");
for(i=0;i<10;i++)
    printf("%d\t",num[i]);
printf("\nCount of even elements in array is %d\n",even);
printf("\nCount of odd elements in array is %d\n",odd);
return 0;
}

```

//30. C program that read 10 numbers and
//sum of all odd and even values between them.

```

#include<stdio.h>
#include<stdlib.h>
int main()
{
    int num[10],i,even=0,odd=0;
    printf("Enter 10 numbers in array");
    fflush(stdout);
    for(i=0;i<10;i++)
    {
        scanf("%d",&num[i]);
    }
}

```

```

    if(num[i]%2==0)
    {
        even=even+num[i];
    }
    else
    {
        odd=odd+num[i];
    }

}

printf("Elements in array are\n");
for(i=0;i<10;i++)
    printf("%d\t",num[i]);
printf("\nSum of even elements in array is %d\n",even);
printf("\nSum of odd elements in array is %d\n",odd);
return 0;
}
*****

```

//31. - A. C program to print pattern of numbers.

```

#include<stdio.h>
#include<stdlib.h>
int main()
{
    int i,j;
    for(i=1;i<=5;i++)
    {
        for(j=1;j<=i;j++)
        {
            printf("*\t");
        }
        printf("\n");
    }
}

```

```

    return 0;
}
*****

//31. - B.    C program to print pattern of numbers.
#include<stdio.h>
#include<stdlib.h>
int main()
{
    int i,j;
    for(i=1;i<=5;i++)
    {
        for(j=1;j<=i;j++)
        {
            printf("%d\t",i);
        }
        printf("\n");
    }
    return 0;
}
*****

```

```

//31. - C.    C program to print pattern of numbers.
#include<stdio.h>
#include<stdlib.h>
int main()
{
    int i,j;
    for(i=1;i<=5;i++)
    {
        for(j=1;j<=i;j++)
        {
            printf("%d\t",j);
        }
    }
}

```

```

        printf("\n");
    }
    return 0;
}

```

//31. - D. C program to print pattern of numbers.

```

#include<stdio.h>
#include<stdlib.h>
int main()
{
    int i,j,k=1;
    for(i=1;i<=5;i++)
    {
        for(j=1;j<=i;j++)
        {
            printf("%d\t",k);
            k++;
        }
        printf("\n");
    }
    return 0;
}

```

//32. C Program to Add Two Matrix Using Multi-dimensional Arrays

```

#include<stdio.h>
#include<stdlib.h>
int main()
{
    int ans[3][3],mat1[3][3],mat2[3][3],i,j;
    printf("Enter elements of 1st 3*3 matrix\n");
    fflush(stdout);
    for(i=0;i<3;i++)

```

```
{
    for(j=0;j<3;j++)
    {
        scanf("%d",&mat1[i][j]);
    }
}

printf("Enter elements of 2nd 3*3 matrix\n");
fflush(stdout);
for(i=0;i<3;i++)
{
    for(j=0;j<3;j++)
    {
        scanf("%d",&mat2[i][j]);
    }
}

for(i=0;i<3;i++)
{
    for(j=0;j<3;j++)
    {
        ans[i][j]=mat1[i][j]+mat2[i][j];
    }
}

printf("Addition of 3*3 matrix is\n");
for(i=0;i<3;i++)
{
    for(j=0;j<3;j++)
    {
        printf("%d\t",ans[i][j]);
    }
}
```

```

    }
    printf("\n");

}
return 0;
}
*****

//33. C Program to Subtract Two Matrix Using Multi-dimensional Arrays
#include<stdio.h>
#include<stdlib.h>
int main()
{
    int ans[3][3],mat1[3][3],mat2[3][3],i,j;
    printf("Enter elements of 1st 3*3 matrix\n");
    fflush(stdout);
    for(i=0;i<3;i++)
    {
        for(j=0;j<3;j++)
        {
            scanf("%d",&mat1[i][j]);

        }

    }

    printf("Enter elements of 2nd 3*3 matrix\n");
    fflush(stdout);
    for(i=0;i<3;i++)
    {
        for(j=0;j<3;j++)
        {
            scanf("%d",&mat2[i][j]);

```

```
    }
}
for(i=0;i<3;i++)
{
    for(j=0;j<3;j++)
    {
        ans[i][j]=mat1[i][j]-mat2[i][j];
    }
}

printf("Addition of 3*3 matrix is\n");
for(i=0;i<3;i++)
{
    for(j=0;j<3;j++)
    {
        printf("%d\t",ans[i][j]);

    }
    printf("\n");

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