

OUTPUT :

Enter a Number = 8
9

The sum is 17

The multiplication is 72

The subtraction is -1

The division is 8

Process returned 0 (0x0) execution time = 0.500 s
Press any key to continue

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Q.1] Write a C program to take input of 2 numbers from the user and display addition, subtraction, multiplication and division.

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

```
{
    int a, b, sum, subdiff, multiplication, divdivision;
    printf("Enter two Number");
    scanf("%d %d", &a, &b);
    sum = a + b;
    diff = b - a;
    multiplication = a * b;
    division = b / a;
```

```
    printf("The sum is %d\n", sum);
    printf("The difference is %d\n", diff);
    printf("The multiplication is %d\n", multiplication);
    printf("The subtraction is %d\n", division);
    return 0;
```

```
}
```

OUTPUT :

ENTER your name karan
Enter your age 10
Enter gender (M/F) Male
Enter city Mumbai
Enter your height 4.5
Employee details ...
Name karan
Age 10
Gender Male
City Mumbai
Height 4.5000

Process returned 0(0x0) execution time 0.000

Press any key to continue

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Q7. Write a program to take employee details as name, age, gender, city and height from the user and display it on the screen

```
#include <stdio.h>
int main()
{
    char name[50];
    int age;
    char gender[10];
    char city[50];
    float height;
    printf("Enter your name: ");
    scanf("%s", name);
    printf("Enter your age: ");
    scanf("%d", &age);
    printf("Enter height: ");
    scanf("%f", &height);
    printf("Enter city: ");
    scanf("%s", &city);
    printf("Employee details\n");
    printf("Name: %s\n", name);
    printf("Age: %d\n", age);
    printf("Gender: %s\n", gender);
    printf("City: %s\n", city);
    printf("Height: %f\n", height);
    return 0;
}
```

OUTPUT :

Enter the value of a = 50
Enter the value of b = 50
Exchange value of a to 50
Exchange value of b to 50

Process returned 0(0x0) execution time 3.7815
Press any key to continue

OUTPUT :

Enter the number : 50 50

Value of a is 50 Value of b is 50

Process returned 0(0x0) execution time 3.5
Press any key to continue

EXPERIMENT :

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Q3] Write a program to take input exchange the values of 2 variables without using third variable.

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

```
int main()
```

```
{
```

```
    int a, b, temp;
```

```
    printf("Enter the value of a: \n");
```

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

```
    printf("Enter the value of b: \n");
```

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

```
    printf("Before swapping: a = %d, b = %d \n", a, b);
```

```
    a = a + b;
```

```
    b = a - b;
```

```
    a = a - b;
```

```
    printf("After swapping: a = %d, b = %d \n", a, b);
```

```
    return 0;
```

```
}
```

```
ENTER 3 NUMBERS
99
102
5096

THE GREATEST NUMBER IS 5096
```

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Q.47) Write a program to take input of 3 Variable and print the greatest.

#include <stdio.h>

int main()

{

int a, b, c, greatest;

printf("Enter 3 numbers\n");

scanf("%d %d %d", &a, &b, &c);

greatest = (a > b) ? (a > c) ? a : c;

(b > c) ? b : c;

printf("The Greatest Number is %d", greatest);

return 0;

}

Output:

Enter age: 21

Person can vote

Program returned 0(0x0) execution time: 0.075
press any key to continue

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EXPERIMENT 3:

o.ij write a program in C to check whether the person is eligible for voting or not

→ #include <stdio.h>

int main ()

{

int age;

printf ("Enter age");

scanf ("%d", &age);

if (age >= 18)

printf ("Person can vote");

else

printf ("Person cannot vote");

return 0;

}

Output:

Enter 3 number 4 2 16
4 is the greatest

Process returned 0(0x0) execution time 13.000s
press any key to continue

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Q-2] Write a program in C to print or find the greatest of three numbers

using if else

```
→ #include <stdio.h>
int main ()
{
    int a, b, c;
    printf ("Enter 3 numbers");
    scanf ("%d %d %d", &a, &b, &c);
    if (a > b && a > c)
        printf ("%d is greatest", a);
    else if (b > a && b > c)
        printf ("%d is the greatest", b);
    else
        printf ("%d is the greatest", c);
    return 0;
}
```

}

Output:

Enter Your Age:

42

Not Eligible For Senior Citizen Concession

Process returned 0 (0x0) execution time 14.152

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Q3] Write a program in C to check if a person is eligible for concession or not.

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

```
int main ()
```

```
{
```

```
int a;
```

```
printf("Enter your age: \n");
```

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

```
if (a >= 65)
```

```
printf("Not eligible for Senior citizen concession");
```

```
else
```

```
printf("Eligible for Senior citizen concession");
```

```
return 0;
```

```
}
```

Output:

Enter the number 5
The number is odd

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EXPERIMENT 4:

a) Write a program to check whether number is even or odd.

```
→ #include <stdio.h>
int main ()
{
    int n;
    printf ("Enter the number : ");
    scanf ("%d", &n);
    if (n%2 == 0)
        printf ("The number is even");
    else
        printf ("The number is odd");

    return 0;
```

}

Output:

Enter A number : 5

Factorial : 120

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- Q2] Write a program in C to find the factorial of a number using
- 1) for loop
 - 2) while loop
 - 3) do while loop

→ 1) For loop

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

```
{
```

```
int n, fact, i;
```

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

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

```
for (i=1;
```

```
i <= n; i++) {
```

```
fact = fact * i;
```

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

```
return 0;
```

```
}
```

Enter a number : 5

factorial : 120

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→ \Rightarrow while loop

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

```
int main ()
```

```
{
```

```
int n, fact, i;
```

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

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

```
fact = 1
```

```
i = 1
```

```
while (i <= n);
```

```
{
```

```
fact = fact * i;
```

```
i++;
```

```
}
```

```
printf ("factorial : %d" : fact);
```

```
return 0;
```

```
}
```

Enter a number : 5

Factorial : 120

EXPERIMENT :

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→ 3) Do While loop

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

```
int main()
```

```
{
```

```
int n, fact, i;
```

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

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

```
fact = 1;
```

```
i = 1;
```

```
do {
```

```
    fact = fact * i;
```

```
    i++;
```

```
while (i <= n);
```

```
printf ("Factorial %d", fact);
```

```
return 0;
```

```
}
```

Output

Square of	1	1
Square of	2	4
Square of	3	9
Square of	4	16
Square of	5	25
Square of	6	36
Square of	7	49
Square of	8	64
Square of	9	81
Square of	10	100

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Q.3] Write a program in C to print square of number from 1 to 10 by using for loop, while loop and do while loop

For Loop:

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

```
int main()
```

```
{
```

```
int i;
```

```
for (i=1; i<=10; i++)
```

```
{
```

```
printf("Square of %d is %d\n", i, i*i)
```

```
}
```

```
return 0;
```

```
}
```

Square of	1	is	1
Square of	2	is	4
Square of	3	is	9
Square of	4	is	16
Square of	5	is	25
Square of	6	is	36
Square of	7	is	49
Square of	8	is	64
Square of	9	is	81
Square of	10	is	100

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While Loop

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

```
int main()
```

```
{
```

```
int = 1
```

```
while (n <= 10);
```

```
{
```

```
printf("Square of %d is %d \n", n, n * n);
```

```
n ++;
```

```
return 0;
```

```
}
```

Square	of	1	1
Square	of	2	4
Square	of	3	9
Square	of	4	16
Square	of	5	25
Square	of	6	36
Square	of	7	49
Square	of	8	64
Square	of	9	81
Square	of	10	100

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do while loop

include <stdio.h>

int main()

{

int n = 1;

do

{

printf("The square of %d is %d \n", n, n*n);

n++;

}

while (n <= 10);

return 0;

}

Output:

Enter number of days : 6

Satur day

EXPERIMENT :

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LAB 5

Q10
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a.ij Write a program in C to predict a day of the week corresponding to its number taken from the user

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

```
int main()
```

```
{ int n;
```

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

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

```
printf("The day is");
```

```
switch (n)
```

```
{
```

```
case 1:
```

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

```
break;
```

```
case 2:
```

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

```
break;
```

```
case 3:
```

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

```
break;
```

```
case 4:
```

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

```
break;
```

case 5:

```
printf("Friday");  
break;
```

case 6:

```
printf("Saturday");  
break;
```

case 7:

```
printf("Sunday");  
break;
```

default:

```
printf("invalid number");  
break;
```

}

```
return 0;
```

}

Q2] Write a programme in C to print star method

code:

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

Output:

```
Enter number : 4
*
* *
* * *
* * * *
```

Q.3] Write a programme in C for simple calculator using function giving option to the user

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

```
int add (int a, int b)
```

```
{
```

```
    return a+b;
```

```
}
```

```
int sub (int a, int b)
```

```
{
```

```
    return a-b;
```

```
}
```

```
int pro (int a, int b)
```

```
{
```

```
    return a*b;
```

```
}
```

```
int div (int a, int b)
```

```
{
```

```
    return a/b;
```

```
}
```

```
int main()
```

```
{
```

```
    int a, b, n;
```

```
    printf ("Enter your number: ");
```

```
    scanf ("%d %d", &a, &b);
```

```
    printf ("Enter \n 1 for addition
```

```
    \n 2 for sub
```

```
    \n 3 for product
```

Output:

Enter 2 numbers : 5 8

Enter

- 1 for addition
- 2 for subtraction
- 3 for multiplication
- 4 for division

3
multiplication of number is 40

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In for division : |a|n|;

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

```
if (n == 1)
```

```
{
```

```
printf ("addition of number is i.d", add(a,b));
```

```
}
```

```
else if (n == 2)
```

```
{
```

```
printf ("subtraction of number is i.d", sub(a,b));
```

```
}
```

```
else if (n == 3)
```

```
{
```

```
printf ("multiplication of number is i.d", prod(a,b));
```

```
}
```

```
else if (n == 4)
```

```
{
```

```
printf ("division of number is i.d", div(a,b));
```

```
}
```

```
else
```

```
{
```

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

```
}
```

```
return 0;
```

Enter Your Name : 5

Factorial is 120

Process Returned is (0x0) execution type

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LAB 6

Q.1] Write a program in C using recursion of Factorial.

```
#include <stdio.h>
int fact (int n)
{
    if (n == 1)
    {
        return 1;
    }
    else
    {
        return n * fact (n-1);
    }
}

int main () {
    int n;
    printf ("Enter your number : ");
    scanf ("%d", &n);
    printf ("Factorial is %d", fact (n));
}
```

Enter the number of terms : 6
Fibonacci series : 0, 1, 1, 2, 3, 5

process returned 0 (x) execution
press any key to continue

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Q7] Develop a program to print a fibonacci series using a loop

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

```
{
```

```
int n, i, t1=0, t2=1, next term;
```

```
printf("Enter the number of terms : ");
```

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

```
printf("Fibonacci Series : %d %d", t1, t2);
```

```
for (i=3; i<=n; i++)
```

```
{
```

```
next term = t1 + t2;
```

```
printf("%d", next term);
```

```
t2 = next term;
```

```
t1 = t2;
```

```
}
```

```
return 0;
```

```
}
```

Output:

Enter Number of elements : 5
Enter 5 numbers :

1
50
55
11
19991
20

The greatest no in the array is 19991
process returned 0(xxx) execution time: 9.640s
press any key to continue

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LAB 7:

Q.1] Write a program in C to find greatest number in 1-D array.

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

```
int main()
```

```
{
```

```
int n, i;
```

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

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

```
int arr[n];
```

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

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

```
{
```

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

```
}
```

```
int max = arr[0];
```

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

```
{
```

```
if(arr[i] > max)
```

```
{
```

```
max = arr[i];
```

```
}
```

```
}
```

```
printf("The greatest number in the array is %d", max);
```

```
return 0;
```

```
}
```

Output:

Enter Number of elements 4
enter 4 number:

27

32

15

22

printing sorted elements

15

22

27

32

process returned 4 (0x4) execution time: 10.593s
press any key to continue.

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0.27 Sort elements in array:

→ #include <stdio.h>

int main()

{

int n, i, temp, j;

printf("Enter number of elements:");

scanf("%d", &n);

int array[n];

printf("Enter %d number: \n", n);

{ for(i=0; i<n; i++) {

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

if (arr[i] > arr[j]) {

temp = arr[i];

arr[i] = arr[j];

arr[j] = temp;

}

}

}

}

printf("printing sorted elements list \n");

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

{

printf("%d \n", arr[i]);

}

}

Output:

```
enter a[0][0] : 2
enter a[0][1] : 3
enter a[0][2] : 4
enter a[1][0] : 1
enter a[1][1] : 5
enter a[1][2] : 4
enter a[2][0] : 2
enter a[2][1] : 2
enter a[2][2] : 5
```

Printing the elements

2	3	4
1	5	4
2	2	5

process returned (0x0) execution time: 11.546s
press any key to continue

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Q-2] Multidimensional Array input & print in Matrix:

```
→ #include <stdio.h>
int main()
{
    int arr[3][3], i, j;
    for (i=0; i<3; i++)
    {
        for (j=0; j<3; j++)
        {
            printf("enter a[%d][%d]: ", i, j);
            scanf("%d", &arr[i][j]);
        }
        printf("\n printing the elements .... \n");
        for (j=0; j<3; j++)
        {
            printf("%d ", arr[i][j]);
        }
        printf("\n");
    }
    return 0;
}
```