

## 1. Factorial of given number

**Aim:** To find the factorial of a given non negative integer using c programming

main.c	Output
<pre>1 #include &lt;stdio.h&gt; 2 int main() { 3     int n, i; 4     unsigned long long fact = 1; 5     printf("Enter a non-negative integer: "); 6     scanf("%d", &amp;n); 7     if (n &lt; 0) { 8         printf("Factorial is not defined for negative numbers.\n"); 9         return 1; 10    } 11    for(i = 1; i &lt;= n; ++i) { 12        fact *= i; 13    } 14    printf("Factorial of %d is: %llu\n", n, fact); 15    return 0; 16 }</pre>	<pre>Enter a non-negative integer: 5 Factorial of 5 is: 120  === Code Execution Successful ===</pre>

**Result :** the factorial of a given non negative number integer using c programming code executed successfully and out put is verified

## 2. Find the greatest number among two numbers

**Aim:** To find and display the greatest of two given numbers

main.c	Output
<pre>1 #include &lt;stdio.h&gt; 2 int main() { 3     int num1, num2; 4     printf("Enter first number: "); 5     scanf("%d", &amp;num1); 6     printf("Enter second number: "); 7     scanf("%d", &amp;num2); 8     if (num1 &gt; num2) { 9         printf("%d is the greatest number.\n", num1); 10    } else if (num2 &gt; num1) { 11        printf("%d is the greatest number.\n", num2); 12    } else { 13        printf("Both numbers are equal.\n"); 14    } 15    return 0; 16 }</pre>	<pre>Enter first number: 10 Enter second number: 20 20 is the greatest number.  === Code Execution Successful ===</pre>

**Result :** The display the greatest of two given numbers is successfully executed

### 3.To find leap year or not

**Aim:** to find the leap year or not

<pre>1 #include &lt;stdio.h&gt; 2 int main() { 3     int year; 4     printf("Enter a year: "); 5     scanf("%d", &amp;year); 6     if (year % 400 == 0) { 7         printf("%d is a leap year.\n", year); 8     } 9     else if (year % 100 == 0) { 10        printf("%d is not a leap year.\n", year); 11    } 12    else if (year % 4 == 0) { 13        printf("%d is a leap year.\n", year); 14    } 15    else { 16        printf("%d is not a leap year.\n", year); 17    } 18    return 0; 19 }</pre>	<p>Enter a year: 2020 2020 is a leap year.</p> <p>=== Code Execution Successful ===</p>
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**Result:** the leap year or not are successfully executed output is verified

### 4.find the prime number in a given numbers

**Aim:** To find prime numbers in a given number

<pre>main.c 1 #include &lt;stdio.h&gt; 2 int main() { 3     int n, i, flag = 0; 4     printf("Enter a number: "); 5     scanf("%d", &amp;n); 6     if (n &lt; 2) { 7         printf("%d is not prime.\n", n); 8         return 0; 9     } 10    for (i = 2; i * i &lt;= n; i++) { 11        if (n % i == 0) { 12            flag = 1; 13            break; 14        } 15    } 16    printf("%d is %sprime.\n", n, (flag == 0) ? "" : "not "); 17    return 0; 18 }</pre>	<p>Enter a number: 23 23 is prime.</p> <p>=== Code Execution Successful ===</p>
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**Result:**The prime number in a given number is successfully executed and out put is verified

5. Find the fibonacci number of the given number

**Aim:** To find the fibonacci number of the given number

main.c	Output
<pre>1 #include &lt;stdio.h&gt; 2 int main() { 3     int n, a = 0, b = 1, c, i; 4     printf("Enter number of terms: "); 5     scanf("%d", &amp;n); 6     printf("Fibonacci Series: %d %d ", a, b); 7     for(i = 3; i &lt;= n; i++) { 8         c = a + b; 9         printf("%d ", c); 10        a = b; 11        b = c; 12    } 13    return 0; 14 }</pre>	<pre>Enter number of terms: 5 Fibonacci Series: 0 1 1 2 3  === Code Execution Successful ===</pre>

**Result:** the fibonacci number of the given number is executed successfully and output is also verified

6. Find the maximum number in a given number

**Aim:** To find the maximum number from the list of given numbers

main.c	Output
<pre>1 #include &lt;stdio.h&gt; 2 int main() { 3     int n, i; 4     int max; 5     printf("Enter the number of elements: "); 6     scanf("%d", &amp;n); 7     int arr[n]; 8     printf("Enter %d numbers:\n", n); 9     for(i = 0; i &lt; n; i++) { 10        scanf("%d", &amp;arr[i]); 11    } 12    max = arr[0]; 13    for(i = 1; i &lt; n; i++) { 14        if(arr[i] &gt; max) { 15            max = arr[i]; 16        } 17    } 18    printf("The maximum number is: %d\n", max); 19    return 0; }</pre>	<pre>Enter the number of elements: 5 Enter 5 numbers: 10 56 74 89 97 The maximum number is: 97  === Code Execution Successful ===</pre>

**Result:** The maximum number from the given list of the numbers is executed successfully and out put is verified

7. Find the sum of the array elements

**Aim:** To write a c program that calculates the sum of all the elements in a given array

main.c	Output
<pre>#include &lt;stdio.h&gt; int main() {     int n, i, sum = 0;     printf("Enter the number of elements: ");     scanf("%d", &amp;n);     int arr[n];     printf("Enter %d numbers:\n", n);     for(i = 0; i &lt; n; i++) {         scanf("%d", &amp;arr[i]);     }     for(i = 0; i &lt; n; i++) {         sum += arr[i];     }     printf("The sum of the array elements is: %d\n", sum);     return 0; }</pre>	<pre>Enter the number of elements: 4 Enter 4 numbers: 5 10 15 20 The sum of the array elements is: 50  === Code Execution Successful ===</pre>

**Result:** the sum of the array elements is executed successfully out put is verified

8. Find the number is even or odd

**Aim:** to write a c program that checks whether a given number is even or odd

main.c	Output
<pre>1 #include &lt;stdio.h&gt; 2 int main() { 3     int num; 4     printf("Enter a number: "); 5     scanf("%d", &amp;num); 6     if(num % 2 == 0) { 7         printf("%d is an even number.\n", num); 8     } else { 9         printf("%d is an odd number.\n", num); 10    } 11 12    return 0; 13 } 14</pre>	<pre>Enter a number: 12 12 is an even number.  === Code Execution Successful ===</pre>

**Result:** the given number is even or odd successfully executed and output is verified

9. Find the arithmetic operation for the given number

**Aim:** to write a C program that performs arithmetic operation ( addition, subtraction, multiplication and division on two given numbers

<pre>1 #include &lt;stdio.h&gt; 2 int main() { 3     float a, b; 4     printf("Enter two numbers: "); 5     scanf("%f %f", &amp;a, &amp;b); 6     printf("Sum = %.2f\n", a + b); 7     printf("Difference = %.2f\n", a - b); 8     printf("Product = %.2f\n", a * b); 9     if(b != 0) 10         printf("Quotient = %.2f\n", a / b); 11     else 12         printf("Division by zero not allowed.\n"); 13 14     return 0; 15 } 16</pre>	<pre>Enter two numbers: 20 12 Sum = 32.00 Difference = 8.00 Product = 240.00 Quotient = 1.67  === Code Execution Successful ===</pre>
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**Result:** the arithmetic operation for the given number successfully executed and output is verified

10. Swapping of two numbers

**Aim:** To write a C program that swaps two numbers using the temporary variable

<pre>main.c 1 #include &lt;stdio.h&gt; 2 int main() { 3     int a = 5, b = 10, temp; 4     temp = a; 5     a = b; 6     b = temp; 7     printf("After swap: a = %d, b = %d\n", a, b); 8     return 0; 9 }</pre>	<pre>After swap: a = 10, b = 5  === Code Execution Successful ===</pre>
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**Result:** the swapping of two numbers are successfully executed and output is verified