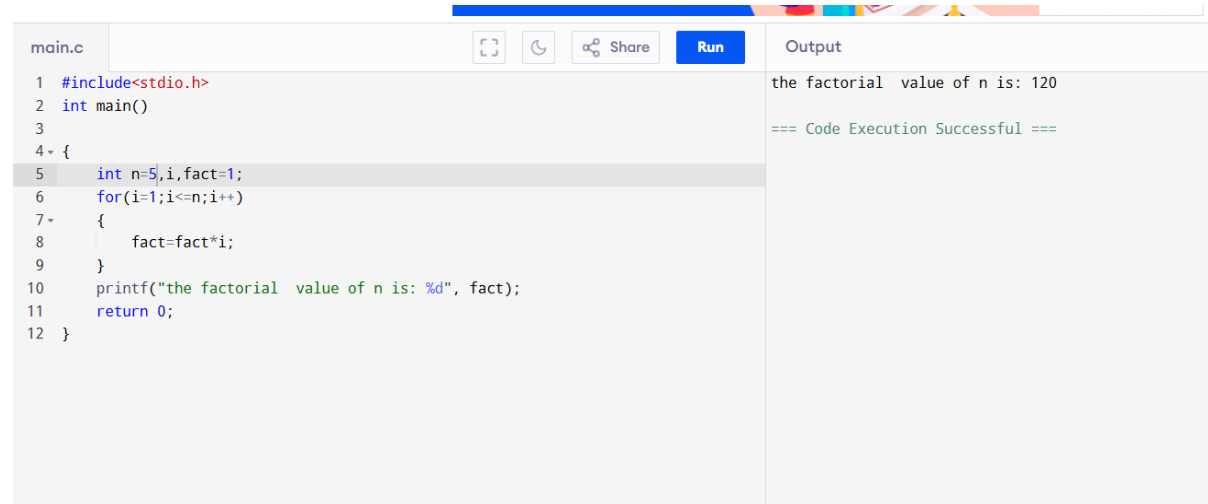


## 1. Writ a c program to find factorial of a given number

**Aim:** To write a c program to find factorial of a given number

**Code:**

A screenshot of a code editor showing a C program to calculate the factorial of a number. The code is in a file named 'main.c'. It includes the standard input/output header, defines a main function, and uses a for loop to calculate the factorial of 5. The output window shows the result 'the factorial value of n is: 120' and a success message.

```
main.c
1 #include<stdio.h>
2 int main()
3
4 {
5     int n=5,i,fact=1;
6     for(i=1;i<=n;i++)
7     {
8         fact=fact*i;
9     }
10    printf("the factorial value of n is: %d", fact);
11    return 0;
12 }
```

Output

the factorial value of n is: 120

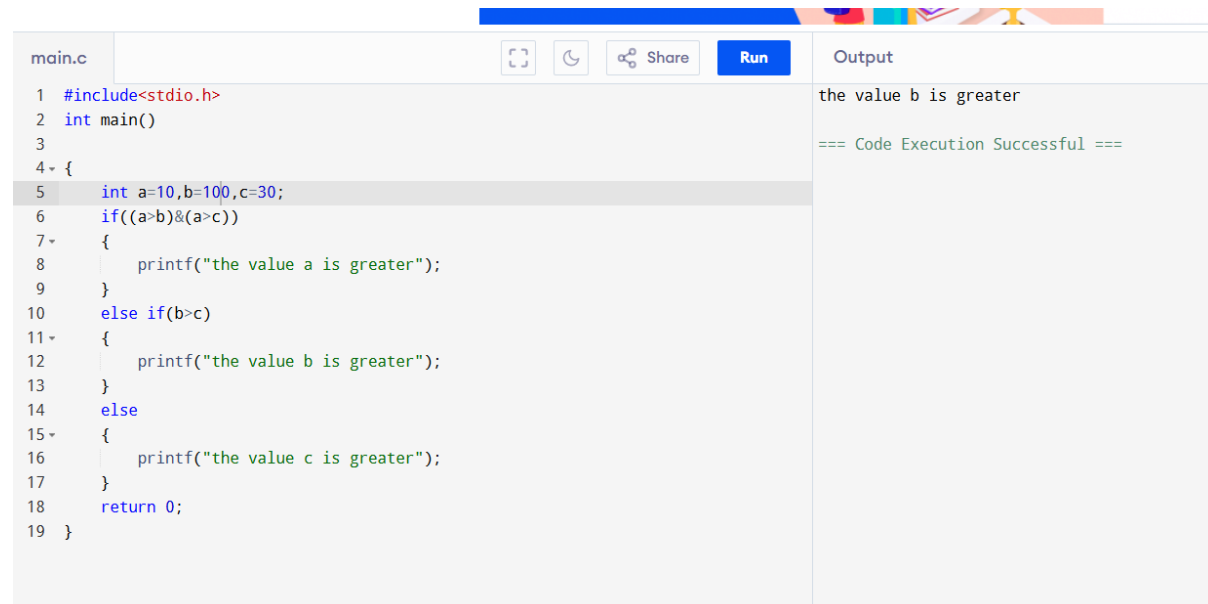
=== Code Execution Successful ===

**Result:** The Factorial value of the given input 5 is :120

## 2. Write a c program to find greatest number among the given numbers

**Aim:** To write a c program to find the greatest number among the given numbers

**Code:**

A screenshot of a code editor showing a C program to find the greatest number among three values. The code is in a file named 'main.c'. It includes the standard input/output header, defines a main function, and uses if-else statements to compare three numbers (a=10, b=100, c=30). The output window shows the result 'the value b is greater' and a success message.

```
main.c
1 #include<stdio.h>
2 int main()
3
4 {
5     int a=10,b=100,c=30;
6     if((a>b)&(a>c))
7     {
8         printf("the value a is greater");
9     }
10    else if(b>c)
11    {
12        printf("the value b is greater");
13    }
14    else
15    {
16        printf("the value c is greater");
17    }
18    return 0;
19 }
```

Output

the value b is greater

=== Code Execution Successful ===

**Result:** Among the given 3 numbers the b value is greater than the other two values

### 3. Write a C program to find the given year is a leap year

**Aim:** To write a C program to find the given year is a leap year

**Code:**

```
main.c
1 #include <stdio.h>
2
3 int main() {
4     int year;
5     printf("Enter a year: ");
6     scanf("%d", &year);
7
8     // Leap year check logic
9     if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0)) {
10         printf("%d is a leap year.\n", year);
11     } else {
12         printf("%d is not a leap year.\n", year);
13     }
14
15     return 0;
16 }
17
```

Output

```
Enter a year: 2004
2004 is a leap year.

=== Code Execution Successful ===
```

**Result:** The given year 2004 is a leap year

### 4. Write a C program to find the given number is a prime number

**Aim:** To write a C program to find the given number is a prime number

**Code:**

```
main.c
1 #include <stdio.h>
2
3 int main() {
4     int i, j, n, isPrime;
5
6     printf("Enter the upper limit: ");
7     scanf("%d", &n);
8
9     printf("Prime numbers up to %d are:\n", n);
10
11     for (i = 2; i <= n; i++) {
12         isPrime = 1; // Assume i is prime
13
14         for (j = 2; j <= i / 2; j++) {
15             if (i % j == 0) {
16                 isPrime = 0;
17                 break;
18             }
19         }
20
21         if (isPrime)
22             printf("%d ", i);
23     }
24
25     return 0;
26 }
27
```

Output

```
Enter the upper limit: 10
Prime numbers up to 10 are:
2 3 5 7

=== Code Execution Successful ===
```

**Result:** The prime numbers for the upper limit 10 is: 2,3,5,7

## 5. Write a C program to find the Fibonacci series

**Aim:** To write a C program to find the Fibonacci series

**Code:**

```
main.c
1 #include <stdio.h>
2
3 int main() {
4     int n, i;
5     int a = 0, b = 1, next;
6
7     printf("Enter the number of terms: ");
8     scanf("%d", &n);
9
10    printf("Fibonacci Series up to %d terms:\n", n);
11
12    for(i = 1; i <= n; i++) {
13        printf("%d ", a);
14        next = a + b;
15        a = b;
16        b = next;
17    }
18
19    return 0;
20 }
```

Output

Enter the number of terms: 9  
Fibonacci Series up to 9 terms:  
0 1 1 2 3 5 8 13 21

=== Code Execution Successful ===

**Result:** The Fibonacci series up to 9 terms is: 0, 1, 1, 2, 3, 5, 8, 13, 21

## 6. Write a C program to find the maximum number of given n numbers

**Aim:** To write a C program to find the maximum number of given 'n' numbers

**Code:**

```
main.c
1 #include <stdio.h>
2
3 int main() {
4     int n, i, num, max;
5
6     printf("Enter how many numbers: ");
7     scanf("%d", &n);
8
9     printf("Enter number 1: ");
10    scanf("%d", &max);
11
12    for(i = 2; i <= n; i++) {
13        printf("Enter number %d: ", i);
14        scanf("%d", &num);
15
16        if(num > max)
17            max = num;
18    }
19
20    printf("The maximum number is: %d\n", max);
21
22    return 0;
23 }
24
```

Output

Enter how many numbers: 5  
Enter number 1: 8  
Enter number 2: 54  
Enter number 3: 67  
Enter number 4: 12  
Enter number 5: 15  
The maximum number is: 67

=== Code Execution Successful ===

**Result:** Among the given 5 numbers the maximum number is 67

## 7. Write a C program to find the sum of array elements

**Aim:** To write a C program to find the sum of array elements

**Code:**

```
main.c
1 #include<stdio.h>
2 int main()
3 {
4     int n,i,sum=0;
5     int arr[100];
6     printf("Enter the number of elements:");
7     scanf("%d",&n);
8
9     printf("Enter %d elements : \n", n);
10    for(i=0;i<n;i++)
11    {
12        scanf("%d",&arr[i]);
13        sum+=arr[i];
14    }
15    printf("The sum of array elements is:%d\n",sum);
16
17    return 0;
18 }
```

Output

Enter the number of elements:5  
Enter 5 elements :  
1 2 3 4 5  
The sum of array elements is:15

=== Code Execution Successful ===

**Result:** List of elements is 1 2 3 4 5 and the sum of the given array is: 15

## 8. Write a C program to find the given number is even\odd

**Aim:** To Write a C program to find the given number is even\odd

**Code:**

```
main.c
1 #include<stdio.h>
2 int main()
3 {
4     int n=10;
5
6     if(n%2 ==0)
7     {
8         printf("the number is even : %d",n);
9     }
10    else
11    {
12        printf("the number is odd: %d", n);
13    }
14    return 0;
15 }
```

Output

the number is even : 10

=== Code Execution Successful ===

**Result:** The given value 10 is a even number

## 9. Write a C program using arithmetic progressions

**Aim:** To write a C program using arithmetic progressions

**Code:**

```
main.c
1 #include <stdio.h>
2
3 int main() {
4     int a, d, n, i, term, sum = 0;
5
6     printf("Enter the first term (a): ");
7     scanf("%d", &a);
8
9     printf("Enter the common difference (d): ");
10    scanf("%d", &d);
11
12    printf("Enter the number of terms (n): ");
13    scanf("%d", &n);
14
15    printf("The Arithmetic Progression is:\n");
16
17    for(i = 0; i < n; i++) {
18        term = a + i * d;
19        printf("%d ", term);
20        sum += term;
21    }
22
23    printf("\nSum of the AP is: %d\n", sum);
24
25    return 0;
26 }
27
```

Output

```
Enter the first term (a): 2
Enter the common difference (d): 3
Enter the number of terms (n): 6
The Arithmetic Progression is:
2 5 8 11 14 17
Sum of the AP is: 57

=== Code Execution Successful ===
```

**Result:** The sum of arithmetic progression terms are :57

## 10. Write a C program to swap two numbers

**Aim:** To write a C program to swap two numbers

**Code:**

```
main.c
1 #include <stdio.h>
2
3 int main()
4 {
5     int a=5,b=10,t;
6     t=a;
7     a=b;
8     b=t;
9
10    printf(" after swapping the values a=%d,b=%d",a,b);
11
12    return 0;
13 }
14
```

Output

```
after swapping the values a=10,b=5

=== Code Execution Successful ===
```

**Result:** After swapping the values a=10, b=5