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:

main.c

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

{
    int n=5,i,fact=1;
    for(i=1;i<=n;i++)
    {
        fact=fact*i;
    }
    printf("the factorial  value of n is: %d", fact);
    return 0;
}
```

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:

main.c

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

{
    int a=10,b=100,c=30;
    if((a>b)&(a>c))
    {
        printf("the value a is greater");
    }
    else if(b>c)
    {
        printf("the value b is greater");
    }
    else
    {
        printf("the value c is greater");
    }
    return 0;
}
```

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

Share Run

```c
#include <stdio.h>

int main() {
    int year;
    printf("Enter a year: ");
    scanf("%d", &year);

    // Leap year check logic
    if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0)) {
        printf("%d is a leap year.\n", year);
    } else {
        printf("%d is not a leap year.\n", year);
    }

    return 0;
}
```

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

Share Run

```c
#include <stdio.h>

int main() {
    int i, j, n, isPrime;

    printf("Enter the upper limit: ");
    scanf("%d", &n);

    printf("Prime numbers up to %d are:\n", n);

    for (i = 2; i <= n; i++) {
        isPrime = 1; // Assume i is prime

        for (j = 2; j <= i / 2; j++) {
            if (i % j == 0) {
                isPrime = 0;
                break;
            }
        }

        if (isPrime)
            printf("%d ", i);
    }

    return 0;
}
```

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

```c
#include <stdio.h>

int main() {
    int n, i;
    int a = 0, b = 1, next;

    printf("Enter the number of terms: ");
    scanf("%d", &n);

    printf("Fibonacci Series up to %d terms:\n", n);

    for(i = 1; i <= n; i++) {
        printf("%d ", a);
        next = a + b;
        a = b;
        b = next;
    }

    return 0;
}
```

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

```c
#include <stdio.h>

int main() {
    int n, i, num, max;

    printf("Enter how many numbers: ");
    scanf("%d", &n);

    printf("Enter number 1: ");
    scanf("%d", &max);

    for(i = 2; i <= n; i++) {
        printf("Enter number %d: ", i);
        scanf("%d", &num);

        if(num > max)
            max = num;
    }

    printf("The maximum number is: %d\n", max);

    return 0;
}
```

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

```c
#include<stdio.h>
int main()
{
    int n,i,sum=0;
    int arr[100];
    printf("Enter the number of elements:");
    scanf("%d",&n);

    printf("Enter %d elements : \n", n);
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
        sum+=arr[i];
    }
    printf("The sum of array elements is:%d\n",sum);

    return 0;
}
```

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

```c
#include<stdio.h>
int main()
{
    int n=10;

    if(n%2 ==0)
    {
        printf("the number is even : %d",n);
    }
    else
    {
        printf("the number is odd: %d", n);
    }
    return 0;
}
```

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

```c
#include <stdio.h>

int main() {
    int a, d, n, i, term, sum = 0;

    printf("Enter the first term (a): ");
    scanf("%d", &a);

    printf("Enter the common difference (d): ");
    scanf("%d", &d);

    printf("Enter the number of terms (n): ");
    scanf("%d", &n);

    printf("The Arithmetic Progression is:\n");

    for(i = 0; i < n; i++) {
        term = a + i * d;
        printf("%d ", term);
        sum += term;
    }

    printf("\nSum of the AP is: %d\n", sum);

    return 0;
}
```

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

```c
#include <stdio.h>

int main()
{
    int a=5,b=10,t;
     t=a;
     a=b;
     b=t;

     printf(" after swapping the values a=%d,b=%d",a,b);

    return 0;
}
```

Output

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

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

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