

# C# Console Application Programs with Questions

## 1. Write a C# program to print 'Hello, World!' to the console.

```
using System;

class Program
{
    static void Main()
    {
        Console.WriteLine("Hello, World!");
    }
}
```

## 2. Write a C# program to create a simple calculator that performs basic arithmetic operations (+, -, \*, /).

```
using System;

class Calculator
{
    static void Main()
    {
        Console.Write("Enter first number: ");
        double num1 = Convert.ToDouble(Console.ReadLine());

        Console.Write("Enter an operator (+, -, *, /): ");
        char op = Convert.ToChar(Console.ReadLine());

        Console.Write("Enter second number: ");
        double num2 = Convert.ToDouble(Console.ReadLine());

        double result = 0;

        switch (op)
        {
            case '+': result = num1 + num2; break;
            case '-': result = num1 - num2; break;
            case '*': result = num1 * num2; break;
            case '/': result = num2 != 0 ? num1 / num2 : double.NaN; break;
            default: Console.WriteLine("Invalid operator!"); break;
        }

        Console.WriteLine("Result: " + result);
    }
}
```

## 3. Write a C# program to check if a given number is a prime number.

```
using System;

class PrimeCheck
```

```

{
    static void Main()
    {
        Console.Write("Enter a number: ");
        int num = int.Parse(Console.ReadLine());
        bool isPrime = true;

        if (num < 2)
            isPrime = false;
        else
        {
            for (int i = 2; i <= Math.Sqrt(num); i++)
            {
                if (num % i == 0)
                {
                    isPrime = false;
                    break;
                }
            }
        }

        Console.WriteLine(isPrime ? "Prime Number" : "Not a Prime Number");
    }
}

```

#### 4. Write a C# program to generate the Fibonacci series up to a given number of terms.

```

using System;

class FibonacciSeries
{
    static int Fibonacci(int n)
    {
        if (n <= 1)
            return n;
        return Fibonacci(n - 1) + Fibonacci(n - 2);
    }

    static void Main()
    {
        Console.Write("Enter the number of terms: ");
        int terms = int.Parse(Console.ReadLine());

        Console.WriteLine("Fibonacci Series:");
        for (int i = 0; i < terms; i++)
        {
            Console.Write(Fibonacci(i) + " ");
        }
    }
}

```

#### 5. Write a C# program to find the factorial of a given number using recursion.

```

using System;

```

```
class FactorialProgram
{
    static long Factorial(int num)
    {
        return (num == 0) ? 1 : num * Factorial(num - 1);
    }

    static void Main()
    {
        Console.Write("Enter a number: ");
        int num = int.Parse(Console.ReadLine());

        Console.WriteLine("Factorial: " + Factorial(num));
    }
}
```