.NET Assignment

C# Programming Questions (Variables, If-Else, Loops)

Variable-based Questions

1. Write a program in C# to declare variables for name, age, and address. Display them.

```csharp
0 references
public class Variables
{
    0 references
    public static void Main()
    {
        string name = "Kamal Nepal";
        int age = 20;
        string address = "Kathmandu, Nepal";

        Console.WriteLine("Name: " + name);
        Console.WriteLine("Age: " + age);
        Console.WriteLine("Address: " + address);
    }
}
```

Figure 1: Declaring variables

2. Write a program in C# to input two numbers and display their sum, difference, product, and quotient.

```csharp
0 references
public static void Main2()
{
        Console.Write("Enter first number: ");
        double num1 = Convert.ToDouble(Console.ReadLine());

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

        Console.WriteLine("Sum = " + (num1 + num2));
        Console.WriteLine("Difference = " + (num1 - num2));
        Console.WriteLine("Product = " + (num1 * num2));
        Console.WriteLine("Quotient = " + (num1 / num2));
}
```

Figure 2: Displaying sum, difference, product and quotient

If-Else based Questions

3. Write a program in C# to input a number and check whether it is even or odd.

```csharp
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace ConsoleApp1
{
    0 references
    public class If_Else
    {
        0 references
        public static void EvenOdd()
        {
            Console.Write("Enter a number: ");
            int num = Convert.ToInt32(Console.ReadLine());

            if (num % 2 == 0)
                Console.WriteLine("Even");
            else
                Console.WriteLine("Odd");
        }
```

Figure 3: Calculating even or odd

4. Write a program in C# to input three numbers and find the largest among them using if-else.

```csharp
0 references
public static void Largest()
{
    Console.Write("Enter first number: ");
    int a = Convert.ToInt32(Console.ReadLine());

    Console.Write("Enter second number: ");
    int b = Convert.ToInt32(Console.ReadLine());

    Console.Write("Enter third number: ");
    int c = Convert.ToInt32(Console.ReadLine());

    if (a >= b && a >= c)
        Console.WriteLine("Largest = " + a);
    else if (b >= a && b >= c)
        Console.WriteLine("Largest = " + b);
    else
        Console.WriteLine("Largest = " + c);
}
```

Figure 4: Calculating largest number

5. Write a program in C# that asks the user to enter their age and checks voting eligibility.

```csharp
0 references
public static void Voting()
{
    Console.Write("Enter your age: ");
    int age = Convert.ToInt32(Console.ReadLine());

    if (age >= 18)
        Console.WriteLine("You are eligible to vote.");
    else
        Console.WriteLine("You are NOT eligible to vote.");
}
```

Figure 5: Calculating voting eligibility

6. Write a program in C# to input marks of a student and display grade (A, B, C, Fail).

```
0 references
public static void DisplayGrade()
{
    Console.Write("Enter marks: ");
    int marks = Convert.ToInt32(Console.ReadLine());

    if (marks >= 80)
        Console.WriteLine("Grade: A");
    else if (marks >= 70)
        Console.WriteLine("Grade: B");
    else if (marks >= 50)
        Console.WriteLine("Grade: C");
    else
        Console.WriteLine("Grade: Fail");
}
```

Figure 6: Displaying grades

Loop-based Questions

7. Write a program in C# to find the sum of the first 10 natural numbers using a for loop.

```csharp
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace ConsoleApp1
{
    public class Loops
    {
        public static void Sum()
        {
            int sum = 0;

            for (int i = 1; i <= 10; i++)
            {
                sum += i;
            }

            Console.WriteLine("Sum = " + sum);
        }
```

Figure 7: Calculating sum using for loop

8. Write a program in C# to display the multiplication table of a given number using a while loop.

```csharp
public static void WhileLoop()
{
    Console.Write("Enter a number: ");
    int num = Convert.ToInt32(Console.ReadLine());

    int i = 1;
    while (i <= 10)
    {
        Console.WriteLine(num + " x " + i + " = " + (num * i));
        i++;
    }
}
```

Figure 8: Multiplication using while loop

9. Write a program in C# to calculate the factorial of a given number using a for loop.

```csharp
0 references
public static void Factorial()
{
    Console.Write("Enter a number: ");
    int n = Convert.ToInt32(Console.ReadLine());

    long fact = 1;

    for (int i = 1; i <= n; i++)
    {
        fact *= i;
    }

    Console.WriteLine("Factorial = " + fact);
}
```

Figure 9: Calculating factorial

10. Write a program in C# to reverse a given number using a while loop.

```csharp
public static void Reverse()
{
    Console.Write("Enter a number: ");
    int num = Convert.ToInt32(Console.ReadLine());

    int rev = 0;

    while (num > 0)
    {
        int digit = num % 10;
        rev = rev * 10 + digit;
        num /= 10;
    }

    Console.WriteLine("Reversed Number = " + rev);
}
```

Figure 10: Reversing a number

11. Write a program in C# to print the first 10 terms of the Fibonacci series using a loop.

```
0 references
public static void Fibonacci()
{
    int n1 = 0, n2 = 1;

    Console.WriteLine("First 10 Fibonacci terms:");

    for (int i = 1; i <= 10; i++)
    {
        Console.Write(n1 + " ");
        int next = n1 + n2;
        n1 = n2;
        n2 = next;
    }
}
```

Figure 11: Calculating fibonacci numbers