BCA Optimized Notes by Yash

Semester IV - C# Programs

Table of Contents

Unit 1

Program #1 - Hello World

Code

```
using System;

namespace CSharpPrograms {
     class HelloWorld {
          static void Main(string[] args) {
               Console.WriteLine("Hello world!");
          }
     }
}
```

Output

```
O:\BCA Material\Semester IV\C#>program1
Hello world!
```

Program #2 - Area of Circle with Constant pi

Code

```
using System;

namespace CSharpPrograms {
     class AreaOfCircle {
          static void Main(string[] args) {
               const double pi = 3.14;
               Console.Write("Enter number: ");
               double r = Convert.ToDouble(Console.ReadLine());
               Console.WriteLine("The area of the circle is {0}.",
(pi * (r * r)));
          }
     }
}
```

Output

```
O:\BCA Material\Semester IV\C#>program2
Enter number: 10
The area of the circle is 314.
```

Program #3 - Sum of Two Integers

Code

```
using System;

namespace CSharpPrograms {
     class SumOfTwoInt {
          static void Main(string[] args) {
               Console.Write("Enter number 1: ");
               int num1 = Convert.ToInt32(Console.ReadLine());
```

```
            Console.Write("Enter number 2: ");
            int num2 = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("The sum of the two numbers is
{0}.", (num1 + num2));
        }
    }
}
```

Output

```
O:\BCA Material\Semester IV\C#>program3
Enter number 1: 10
Enter number 2: 15
The sum of the two numbers is 25.
```

Program #4 - Swap Two Numbers

Code

```
using System;

namespace CSharpPrograms {
    class SwapTwoNumbers {
        static void Main(string[] args) {
            Console.Write("Enter number 1: ");
            int num1 = Convert.ToInt32(Console.ReadLine());
            Console.Write("Enter number 2: ");
            int num2 = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("");
            Console.WriteLine("Before Swapping");
            Console.WriteLine("Number 1 = " + num1);
            Console.WriteLine("Number 2 = " + num2);
            num1 = num1 + num2;
            num2 = num1 - num2;
            num1 = num1 - num2;
            Console.WriteLine("");
            Console.WriteLine("After Swapping");
            Console.WriteLine("Number 1 = " + num1);
            Console.WriteLine("Number 2 = " + num2);
        }
    }
}
```

Output

```
O:\BCA Material\Semester IV\C#>program4
Enter number 1: 7
Enter number 2: 14

Before Swapping
Number 1 = 7
Number 2 = 14

After Swapping
Number 1 = 14
Number 2 = 7
```

Program #5 - Find the Tallest Person between Two

Code

```
using System;

namespace CSharpPrograms {
     class TallestPerson {
          static void Main(string[] args) {
               Console.Write("Enter the height of person 1 (in cm):
");
               double height1 = Convert.ToDouble(Console.ReadLine());
               Console.Write("Enter the height of person 2 (in cm):
");
               double height2 = Convert.ToDouble(Console.ReadLine());
               if (height1 > height2) {
                    Console.WriteLine("Person 1 is the tallest
person.");
               }
               else {
                    Console.WriteLine("Person 2 is the tallest
person.");
               }
          }
     }
}
```

Output

```
O:\BCA Material\Semester IV\C#>program5
Enter the height of person 1 (in cm): 165
Enter the height of person 2 (in cm): 160
Person 1 is the tallest person.

O:\BCA Material\Semester IV\C#>program5
Enter the height of person 1 (in cm): 160
Enter the height of person 2 (in cm): 165
Person 2 is the tallest person.
```

Program #6 - Maximum between Three Numbers

Code

```
using System;

namespace CSharpPrograms {
     class MaxThreeNumbers {
          static void Main(string[] args) {
               Console.Write("Enter number 1: ");
               int num1 = Convert.ToInt32(Console.ReadLine());
               Console.Write("Enter number 2: ");
               int num2 = Convert.ToInt32(Console.ReadLine());
               Console.Write("Enter number 3: ");
               int num3 = Convert.ToInt32(Console.ReadLine());
               if (num1 > num2 && num1 > num3) {
                    Console.WriteLine("Number 1 i.e. {0} is the
maximum.", num1);
               }
               else if (num2 > num1 && num2 > num3) {
                    Console.WriteLine("Number 2 i.e. {0} is the
maximum.", num2);
               }
               else {
                    Console.WriteLine("Number 3 i.e. {0} is the
maximum.", num3);
               }
          }
     }
}
```

Output

```
O:\BCA Material\Semester IV\C#>program6
Enter number 1: 20
Enter number 2: 22
Enter number 3: 24
Number 3 i.e. 24 is the maximum.

O:\BCA Material\Semester IV\C#>program6
Enter number 1: 20
Enter number 2: 24
Enter number 3: 22
Number 2 i.e. 24 is the maximum.

O:\BCA Material\Semester IV\C#>program6
Enter number 1: 24
Enter number 2: 22
Enter number 3: 20
Number 1 i.e. 24 is the maximum.
```

Program #7 - Maximum between Three Numbers (Nested If)

Code

```
using System;

namespace CSharpPrograms {
     class MaxThreeNumbersNested {
          static void Main(string[] args) {
               Console.Write("Enter number 1: ");
               int num1 = Convert.ToInt32(Console.ReadLine());
               Console.Write("Enter number 2: ");
               int num2 = Convert.ToInt32(Console.ReadLine());
               Console.Write("Enter number 3: ");
               int num3 = Convert.ToInt32(Console.ReadLine());
               if (num1 > num2) {
                    if (num1 > num3) {
                         Console.WriteLine("Number 1 i.e. {0} is the
maximum.", num1);
                    }
                    else {
                         Console.WriteLine("Number 3 i.e. {0} is the
maximum.", num3);
                    }
               }
               else {
                    if (num2 > num3) {
                         Console.WriteLine("Number 2 i.e. {0} is the
maximum.", num2);
                    }
                    else {
                         Console.WriteLine("Number 3 i.e. {0} is the
maximum.", num3);
                    }
               }
          }
     }
}
```

Output

```
O:\BCA Material\Semester IV\C#>program7
Enter number 1: 20
Enter number 2: 22
Enter number 3: 24
Number 3 i.e. 24 is the maximum.

O:\BCA Material\Semester IV\C#>program7
Enter number 1: 20
Enter number 2: 24
Enter number 3: 22
Number 2 i.e. 24 is the maximum.

O:\BCA Material\Semester IV\C#>program7
Enter number 1: 24
Enter number 2: 22
Enter number 3: 20
Number 1 i.e. 24 is the maximum.
```

Program #8 - Factorial

Code

```
using System;

namespace CSharpPrograms {
     class Factorial {
          static void Main(string[] args) {
               int fact = 1;
               Console.Write("Enter number: ");
               int num = Convert.ToInt32(Console.ReadLine());
               for (int i = num; i > 0; i--) {
                    fact = fact * i;
               }
               Console.WriteLine("The factorial of the number {0} is
{1}.", num, fact);
          }
     }
}
```

Output

```
O:\BCA Material\Semester IV\C#>program8
Enter number: 5
The factorial of the number 5 is 120.
```

Program #9 - Reverse a Number

Code

```
using System;

namespace CSharpPrograms {
     class ReverseNumber {
```

```
          static void Main(string[] args) {
               int rem = 0, rev = 0;
               Console.Write("Enter number: ");
               int num = Convert.ToInt32(Console.ReadLine());
               int tempNum = num;
               while (num != 0) {
                    rem = num % 10;
                    rev = (rev * 10) + rem;
                    num = num / 10;
               }
               Console.WriteLine("The reverse of the number {0} is
{1}.", tempNum, rev);
          }
     }
}
```

Output

```
O:\BCA Material\Semester IV\C#>program9
Enter number: 795
The reverse of the number 795 is 597.
```

Program #10 - Krishnamurthi Number

Code

```
using System;

namespace CSharpPrograms {
     class Krishnamurthi {
          static void Main(string[] args) {
               int km = 0, rem = 0, fact = 1;
               Console.Write("Enter number: ");
               int num = Convert.ToInt32(Console.ReadLine());
               int tempNum = num;
               while (num != 0) {
                    rem = num % 10;
                    for (int i = 1; i <= rem; i++) {
                         fact = fact * i;
                    }
                    km = km + fact;
                    num = num / 10;
                    fact = 1;
               }
               if (km == tempNum) {
                    Console.WriteLine("{0} is a Krishnamurthi
number.", tempNum);
               }
               else {
                    Console.WriteLine("{0} is not a Krishnamurthi
number.", tempNum);
               }
          }
     }
```

```
}
```

Output

```
O:\BCA Material\Semester IV\C#>program10
Enter number: 145
145 is a Krishnamurthi number.

O:\BCA Material\Semester IV\C#>program10
Enter number: 155
155 is not a Krishnamurthi number.
```

Program #11 - Prime Number

Code

```
using System;

namespace CSharpPrograms {
     class PrimeNumber {
          static void Main(string[] args) {
               int count = 0;
               Console.Write("Enter number: ");
               int num = Convert.ToInt32(Console.ReadLine());
               for (int i = 1; i <= num; i++) {
                    if (num % i == 0) {
                         count++;
                    }
               }
               if (count == 2) {
                    Console.WriteLine("{0} is a prime number.", num);
               }
               else {
                    Console.WriteLine("{0} is not a prime number.",
num);
               }
          }
     }
}
```

Output

```
O:\BCA Material\Semester IV\C#>program11
Enter number: 7
7 is a prime number.

O:\BCA Material\Semester IV\C#>program11
Enter number: 12
12 is not a prime number.
```