



Coding Written Test

by

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LOGICAL PROGRAMS

1. Write a console program to print sum of given range?

input : Enter your range: 5

Output: Sum is : 15

solution:

using System;

namespace RNREDDYLogicalprograms

```
{  
    class Program  
    {  
        static void Main(string[] args)  
        {  
            Console.WriteLine("Enter your range: ");  
            int n = int.Parse(Console.ReadLine());  
            int sum = 0;  
            for (int i = 1; i <= n; i++)  
            {  
                sum = sum + i;  
            }  
            Console.WriteLine("Sum is: " + sum);  
            Console.ReadLine();  
        }  
    }  
}
```

2. Write a console program to display the multiplication of given range?

Input: Enter your range: 5

Output: Mul is : 120

solution:

```
using System;
namespace RNREDDYLogicalprograms
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Enter ur range:");
            int n = int.Parse(Console.ReadLine());
            int mul = 1;
            for (int i = 1; i <= n; i++)
            {
                mul = mul * i;
            }
            Console.WriteLine("multiplication is: " + mul);
            Console.ReadLine();
        }
    }
}
```

3. Write a console program to display factorial of given number?

input : Enter your range: 5

output : fac is : 120

solution:

```
using System;
namespace RNREDDYLogicalprograms
{
    class Program
```

```
{
    static void Main(string[] args)
    {
        Console.WriteLine("Enter ur range:");
        int n = int.Parse(Console.ReadLine());
        int fac = 1;
        for (int i = n; i >= 1; i--)
        {
            fac = fac * i;
        }
        Console.WriteLine("factorial is: " + fac);
        Console.ReadLine();
    }
}
```

4. Write a console program to swap two numbers and print swapped Numbers?

Input: Enter first number: 10

Enter Second number : 15

output: first number is :15

Second number is :10

solution:

using System;

namespace RNREDDYLogicalprograms

```
{
    class Program
    {
        static void Main(string[] args)
```

```
{  
    Console.WriteLine("Enter first number:");  
    int a = int.Parse(Console.ReadLine());  
    Console.WriteLine("Enter second number:");  
    int b = int.Parse(Console.ReadLine());  
    int temp = a;  
    a = b;  
    b = temp;  
    Console.WriteLine("First number is: " + a);  
    Console.WriteLine("Second number is: " + b);  
    Console.ReadLine();  
}  
}  
}
```

5.Implement above swapping without third variable.

Input: Enter first number: 10

Enter Second number : 15

output: first number is :15

Second number is :10

solution:

using System;

namespace RNREDDYLogicalprograms

```
{  
    class Program  
    {  
        static void Main(string[] args)  
        {
```

```
Console.WriteLine("Enter first number: ");
int a = int.Parse(Console.ReadLine());
Console.WriteLine("Enter second number:");
int b = int.Parse(Console.ReadLine());
a = a + b;
b = a - b;
a = a - b;
Console.WriteLine("First number is: " + a);
Console.WriteLine("Second number is: " + b);
Console.ReadLine();
}
}
}
```

6. Write a console program to print 5 table based on input from the user.

solution:

```
using System;
namespace RNREDDYLogicalprograms
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Enter Ur number");
            int n = int.Parse(Console.ReadLine());
            Console.WriteLine("\n" + n + " Table is : \n\n");
            for (int i = 1; i < 11; i++)
            {
```

```
        Console.WriteLine(n + " * " + i + " = " + n * i + "\n");
    }
    Console.ReadLine();
}
}
```

output:

Enter Ur number

5

5 Table is :

5 * 1 = 5

5 * 2 = 10

5 * 3 = 15

5 * 4 = 20

5 * 5 = 25

5 * 6 = 30

5 * 7 = 35

5 * 8 = 40

5 * 9 = 45

5 * 10 = 50

7. Write a console program to check whether given number is prime or not?

ip: Enter your number: 5

op: It is prime number

solution:

using System;

namespace RNREDDYLogicalprograms


```
{  
    class Program  
    {  
        static void Main(string[] args)  
        {  
            Console.WriteLine("Enter ur number:");  
            int n = int.Parse(Console.ReadLine());  
            int ctr = 0;  
            for (int i = 2; i < n; i++)  
            {  
                if (n % i == 0)  
                {  
                    ctr++;  
                    break;  
                }  
            }  
            if (ctr == 0)  
            {  
                Console.WriteLine("It is a Prime number");  
            }  
            else  
            {  
                Console.WriteLine("Not a Prime number");  
            }  
            Console.ReadLine();  
        }  
    }  
}
```

```
}
```

8. Write a console program to check whether given number is odd or not?

ip: Enter your number: 3

Op: Its is odd number

solution:

```
using System;
```

```
namespace RNREDDYLogicalprograms
```

```
{
```

```
    class Program
```

```
    {
```

```
        static void Main(string[] args)
```

```
        {
```

```
            Console.WriteLine("Enter ur number:");
```

```
            int n = int.Parse(Console.ReadLine());
```

```
            if (n % 2 == 1)
```

```
            {
```

```
                Console.WriteLine("It is a Odd number");
```

```
            }
```

```
            else
```

```
            {
```

```
                Console.WriteLine("it is not a Odd number");
```

```
            }
```

```
            Console.ReadLine();
```

```
        }
```

```
    }
```

```
}
```

9. Write a console program to check whether given number is even or not?

ip: Enter your number: 2

Op: It is a even number

solution:

using System;

namespace RNREDDYLogicalprograms

```
{  
    class Program  
    {  
        static void Main(string[] args)  
        {  
            Console.WriteLine("Enter ur number:");  
            int n = int.Parse(Console.ReadLine());  
            if (n % 2 == 0)  
            {  
                Console.WriteLine("It is a Even number");  
            }  
            else  
            {  
                Console.WriteLine("it is not a even number");  
            }  
            Console.ReadLine();  
        }  
    }  
}
```

10. Write a console program to check whether given number is even no's, sum of even numbers,

no of even numbers within given range?

ip: Enter ur range: 10

Op: List of even numbers are:

2

4

6

8

10

Sum is : 30

No of even numbers are: 5

solution:

```
using System;
```

```
namespace RNREDDYLogicalprograms
```

```
{
```

```
    class Program
```

```
    {
```

```
        static void Main(string[] args)
```

```
        {
```

```
            int sum = 0, count = 0;
```

```
            Console.WriteLine("Enter Ur range:");
```

```
            int n = int.Parse(Console.ReadLine());
```

```
            Console.WriteLine("List of even numbers are:");
```

```
            for (int i = 1; i <= n; i++)
```

```
            {
```

```
                if (i % 2 == 0)
```

```
                {
```

```
                    Console.WriteLine(i);
```

```
                    sum = sum + i;
```

```
        count++;  
    }  
}  
Console.WriteLine("Sum is: " + sum);  
Console.WriteLine("No of even numbers are: " + count);  
Console.ReadLine();  
}  
}
```

11. Write a console program to check whether given number is even no's, sum of even numbers, no of even numbers within given range?

ip: Enter ur range: 5

Op: List of even numbers are:

1

3

5

Sum is : 9

No of even numbers are: 3

solution:

using System;

namespace RNREDDYLogicalprograms

{

class Program

{

static void Main(string[] args)

{

int sum = 0, count = 0;

```
Console.WriteLine("Enter Ur range:");
int n = int.Parse(Console.ReadLine());
Console.WriteLine("List of odd numbers are:");
for (int i = 1; i <= n; i++)
{
    if (i % 2 != 0)
    {
        Console.WriteLine(i);
        sum = sum + i;
        count++;
    }
}
Console.WriteLine("Sum is: " + sum);
Console.WriteLine("No of odd numbers are: " + count);
Console.ReadLine();
}
```

12. Write a console program to display sum of squares of up to given range.

Ip: Enter ur range: 5

Op: sum is : 55

solution:

```
using System;
```

```
namespace RNREDDYLogicalprograms
```

```
{
```

```
    class Program
```

```
{
```

```
static void Main(string[] args)
{
    Console.WriteLine("Enter ur number:");
    int n = int.Parse(Console.ReadLine());
    int sum = 0;
    for (int i = 1; i <= n; i++)
    {
        int sqr = i * i;
        sum = sum + sqr;
    }
    Console.WriteLine("Sum is:" + sum);
    Console.ReadLine();
}
}
```

13. Write a console program to display sum of squares of factorials of up to given range.

Ip: Enter ur range: 5

Op: sum is : 153

solution:

```
using System;
namespace RNREDDYLogicalprograms
{
    class Program
    {
        static void Main(string[] args)
        {
```

```
Console.WriteLine("Enter ur number:");
int n = int.Parse(Console.ReadLine());
int sum = 0; int fac = 1;
for (int i = n; i >= 1; i--)
{
    for (int j = i; j>=1; j--)
    {
        fac = fac * j;
    }
    sum = sum + fac;
    fac = 1;
}
Console.WriteLine("Sum is:" + sum);
Console.ReadLine();
}
}
```

14. Write a console program to print Fibonacci series up to given range.

Ip : Enter ur range: 15

Op: 0 1 1 2 3 5 8 13

solution:

```
using System;
namespace RNREDDYLogicalprograms
{
    class Program
    {
        static void Main(string[] args)
```



```
{
    int a = 0, b = 1, c = 0;
    int sum = 0, count = 0;
    Console.WriteLine("Enter ur range: ");
    int n = int.Parse(Console.ReadLine());
    Console.WriteLine("Fibonacci Series: ");
    while (a <= n)
    {
        Console.WriteLine(a + " ");
        c = a + b;
        a = b;
        b = c;
    }
    Console.ReadLine();
}
}
```

15. Write a console program to print Fibonacci series up to given range and display sum of Fibonacci series and no of Fibonacci series up to given range.

ip: Enter ur range: 10

Op: 0 1 1 2 3 5 8

sum is: 33

no of numbers are: 7

solution:

using System;

namespace RNREDDYLogicalprograms

{

```
class Program
{
    static void Main(string[] args)
    {
        int a = 0, b = 1, c = 0;
        int sum = 0, count = 0;
        Console.Write("Enter ur range: ");
        int n = int.Parse(Console.ReadLine());
        Console.Write("Fibonacci Series: ");
        while (a <= n)
        {
            Console.Write(a + " ");
            c = a + b;
            a = b;
            b = c;
            sum = sum + a;
            count++;
        }
        Console.WriteLine("\n" + "Sum is:" + sum);
        Console.WriteLine("No of numbers are:" + count);
        Console.ReadLine();
    }
}
```

16. WAP To display palindrome numbers up to n... !

Enter Number : 50

Palindrome numbers upto given range are: 1 2 3 4 5 6 7 8 9 11 22 33 44

solution:

using System;

namespace RNREDDYLogicalprograms

```
{  
    class Program  
    {  
        static void Main(string[] args)  
        {  
            int n, i, k, r, temp;  
            Console.Write("Enter Number : ");  
            n = int.Parse(Console.ReadLine());  
            Console.WriteLine("Palindrome numbers upto given range are:\n");  
            for (i = 1; i <= n; i++)  
            {  
                temp = i; r = 0;  
                while (temp != 0)  
                {  
                    k = temp % 10;  
                    r = r * 10 + k;  
                    temp = temp / 10;  
                }  
                if (r == i)  
                {  
                    Console.Write(i + " ");  
                }  
            }  
            Console.ReadLine();  
        }  
    }  
}
```

```
}
```

```
}
```

17.WCP to check whether given number is Armstrong number or not.

Enter the Number= 371

Armstrong Number.

Enter the Number= 342

Not Armstrong Number.

solution:

using System;

namespace RNREDDYLogicalprograms

```
{
```

```
    class Program
```

```
    {
```

```
        static void Main(string[] args)
```

```
        {
```

```
            int n, r, sum = 0, temp;
```

```
            Console.Write("Enter the Number= ");
```

```
            n= int.Parse(Console.ReadLine());
```

```
            temp=n;
```

```
            while (n>0)
```

```
            {
```

```
                r=n%10;
```

```
                sum=sum+(r*r*r);
```

```
                n=n/10;
```

```
            }
```

```
            if (temp==sum)
```

```
                Console.Write("Armstrong Number.");
```

```
        else
            Console.WriteLine("Not Armstrong Number.");
        Console.ReadLine();
    }
}
}
```

18. Write a console program to accept a number and print in reverse.

ip: Enter ur number:321

Op: reverse number is : 123

solution:

```
using System;
namespace RNREDDYLogicalprograms
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Enter ur number:");
            int num = int.Parse(Console.ReadLine());
            int rem = 0;
            int rev = 0;
            while (num != 0)
            {
                rem = num % 10;
                rev = rev * 10 + rem;
                num = num / 10;
            }
        }
    }
}
```

```
    }  
    Console.WriteLine("Reverse number is:" + rev);  
    Console.ReadLine();  
}  
}  
}
```

19. Write a console program to check whether given number is a palindrome or not?

input: Enter ur number: 121

op: It is a palindrome

solution:

```
using System;  
namespace RNREDDYLogicalprograms  
{  
    class Program  
    {  
        static void Main(string[] args)  
        {  
            Console.WriteLine("Enter ur number:");  
            int n = int.Parse(Console.ReadLine());  
            int rem = 0, revnum = 0, temp = n;  
            while (n != 0)  
            {  
                rem = n % 10;  
                revnum = revnum * 10 + rem;  
                n = n / 10;  
            }  
        }  
    }  
}
```

```
    if (temp == revnum)
    {
        Console.WriteLine("It is a palindrome");
    }
    else
    {
        Console.WriteLine("It is not a palindrome");
    }
    Console.ReadLine();
}
}
```

20. Write a program which takes an integer number and adds all the digit in the number, it should return a single digit in the end.

input : 5643

Hint: $5+6+4+3=18$; $1+8=9$

output: 9

solution:

using System;

namespace RNREDDYLogicalprograms

```
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Enter ur Number:");
```

```
int n = int.Parse(Console.ReadLine());
int sum = 0;
while (n > 9)
{
    sum = 0;
    while (n > 0)
    {
        int rem;
        rem = n % 10;
        sum = sum + rem;
        n = n / 10;
    }
    n = sum;
}
Console.WriteLine("Output Is: "+sum);
Console.ReadLine();
}
```

21. Write a program to convert decimal to binary number

input: Enter a number : 123

output : 1111011

solution:

using System;

namespace RNREDDYLogicalprograms

{

class Program


```
{
    static void Main(string[] args)
    {
        int num;

        Console.Write("Enter a Number : ");

        num = int.Parse(Console.ReadLine());

        int quot;

        string rem = "";

        while (num >= 1)
        {
            quot = num / 2;

            rem += (num % 2).ToString();

            num = quot;
        }

        string bin = "";

        for (int i = rem.Length - 1; i >= 0; i--)
        {
            bin = bin + rem[i];
        }

        Console.WriteLine("The Binary format for given number is {0}", bin);

        Console.ReadLine();
    }
}
```

22.WAP to display n number of prime numbers.

Enter the number of prime numbers required: 10

Prime numbers are:

2 3 5 7 11 13 17 19 23 29

Solution:-

using System;

namespace RNREDDYLogicalprograms

```
{  
    class Program  
    {  
        static void Main(string[] args)  
        {  
            Console.WriteLine("Enter the number of prime numbers required: ");  
            int n = int.Parse(Console.ReadLine());  
            int primecount = 0, temp = n;  
            Console.WriteLine("Prime numbers are:");  
            for (int i = 1; i <= n; i++)  
            {  
                int count = 0;  
                for (int j = 1; j <= i; j++)  
                {  
                    if (i % j == 0)  
                    {  
                        count++;  
                    }  
                }  
                if (count == 2)  
                {  
                    Console.Write(i+" ");  
                    primecount++;  
                }  
            }  
        }  
    }  
}
```

```
    }  
    n++;  
    if (primecount == temp)  
        break;  
}  
Console.ReadLine();  
}  
}
```

23.WAP to display Min and Max number in the given number

Enter number : 123456789

Maximum Number = 9

Minimum Number = 1

solution:

```
using System;  
namespace RNREDDYLogicalprograms  
{  
    class Program  
    {  
        static void Main(string[] args)  
        {  
            Console.Write("Enter number : ");  
            int num = int.Parse(Console.ReadLine());  
            int max = num % 10, min = num % 10;  
            while (num > 0)  
            {
```

```
int a = num % 10; //see this
if (a > max)
    max = a;
if (a < min)
    min = a;
num = num / 10;
}
Console.WriteLine("Maximum Number =" + max);
Console.WriteLine("Minimum Number =" + min);
Console.ReadLine();
}
}
```

24.WAP to display Sum of Squares of digits

Enter Number : 1234

sum of square digits is : 30

solution:

using System;

namespace RNREDDYLogicalprograms

```
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.Write("Enter Number : ");
            int x = Int32.Parse(Console.ReadLine());
            int sum = 0, r;
```

```
while (x != 0)
{
    r = x % 10;
    sum = sum + (r * r);
    x = x / 10;
}
Console.WriteLine(" sum of square digits is : " + sum);
Console.ReadLine();
}
}
```

25.WAP to Check Whether the Entered Number is a Perfect Number or Not

Enter the Number :6

6 is a perfect number

solution:

```
using System;
namespace RNREDDYLogicalprograms
{
    class Program
    {
        static void Main(string[] args)
        {
            int number, sum = 0, n;
            Console.Write("Enter the Number :");
            number = int.Parse(Console.ReadLine());
            n = number;
            for (int i = 1; i < number; i++)
```

```
{
    if (number % i == 0)
    {
        sum = sum + i;
    }
}
if (sum == n)
{
    Console.WriteLine("\n"+n + " is a perfect number");
}
else
{
    Console.WriteLine(n + " is not a perfect number");
}
Console.ReadLine();
}
}
}
```

PATTERN PROGRAMS

(NUMBER PATTERNS & SYMBOL PATTERNS)

1. Write a console program to print like below?

output:

1

2 2

3 3 3

4 4 4 4

5 5 5 5 5

Solution:-

```
using System;
```

```
namespace RNREDDYLogicalprograms
```

```
{
```

```
    class Program
```

```
    {
```

```
        static void Main(string[] args)
```

```
        {
```

```
            for (int i = 1; i <= 5; i++)
```

```
            {
```

```
                for (int j = 1; j <= i; j++)
```

```
                {
```

```
                    Console.Write(i + " ");
```

```
                }
```

```
                Console.WriteLine();
```

```
            }
```

```
            Console.ReadLine();
```

```
        }
```



```
}  
}
```

2. Write a console program to print like below?

output:

```
1  
1 2  
1 2 3  
1 2 3 4  
1 2 3 4 5
```

Solution:-

```
using System;
```

```
namespace RNREDDYLogicalprograms
```

```
{  
    class Program  
    {  
        static void Main(string[] args)  
        {  
            for (int i = 1; i <= 5; i++)  
            {  
                for (int j = 1; j <= i; j++)  
                {  
                    Console.Write(j + " ");  
                }  
                Console.WriteLine();  
            }  
            Console.ReadLine();  
        }  
    }  
}
```

```
}  
}
```

3. Write a console program to print like below?

output:

5 5 5 5 5

4 4 4 4

3 3 3

2 2

1

Solution:-

```
using System;
```

```
namespace RNREDDYLogicalprograms
```

```
{
```

```
    class Program
```

```
    {
```

```
        static void Main(string[] args)
```

```
        {
```

```
            for (int i = 5; i >= 1; i--)
```

```
            {
```

```
                for (int j = 1; j <= i; j++)
```

```
                {
```

```
                    Console.Write(i + " ");
```

```
                }
```

```
                Console.WriteLine("\n");
```

```
            }
```

```
            Console.ReadLine();
```

```
        }
```

```
}  
}
```

4. Write a console program to print like below?

output:

1 2 3 4 5

1 2 3 4

1 2 3

1 2

1

Solution:-

using System;

namespace RNREDDYLogicalprograms

```
{  
    class Program  
    {  
        static void Main(string[] args)  
        {  
            for (int i = 5; i >= 1; i--)  
            {  
                for (int j = 1; j <= i; j++)  
                {  
                    Console.Write(j + " ");  
                }  
                Console.WriteLine("\n");  
            }  
            Console.ReadLine();  
        }  
    }  
}
```

```
}  
}
```

5. Write a console program to print like bellow based on given range?

Ip: Enter ur range: 5

OP:

```
1  
1 2  
1 2 3  
1 2 3 4  
1 2 3 4 5
```

Solution:-

```
using System;  
namespace RNREDDYLogicalprograms  
{  
    class Program  
    {  
        static void Main(string[] args)  
        {  
            Console.WriteLine("enter ur range");  
            int r = int.Parse(Console.ReadLine());  
            for (int i = 1; i <= r; i++)  
            {  
                for (int j = 1; j <= i; j++)  
                {  
                    Console.Write(j + " ");  
                }  
                Console.WriteLine();  
            }  
        }  
    }  
}
```

```
    }  
    Console.ReadLine();  
}  
}  
}
```

6. Write a console program to print like bellow based on given range?

input: Enter your range: 5

output:

1

2 2

3 3 3

4 4 4 4

5 5 5 5 5

Solution:-

using System;

namespace RNREDDYLogicalprograms

{

class Program

{

static void Main(string[] args)

{

Console.WriteLine("enter ur range");

int r = int.Parse(Console.ReadLine());

for (int i = 1; i <= r; i++)

{

for (int j = 1; j <= i; j++)

{

```
        Console.Write(i + " ");  
    }  
    Console.WriteLine();  
}  
Console.ReadLine();  
}  
}  
}
```

7. Write a console program to print like below?

op:

1

2 3

4 5 6

7 8 9 10

Solution:-

```
using System;
```

```
namespace RNREDDYLogicalprograms
```

```
{
```

```
    class Program
```

```
    {
```

```
        static void Main(string[] args)
```

```
        {
```

```
            int k = 1;
```

```
            for (int i = 1; i <= 4; i++)
```

```
            {
```

```
                for (int j = 1; j <= i; j++)
```

```
                {
```

```
        Console.Write(k + " ");  
        k++;  
    }  
    Console.WriteLine("\n");  
}  
Console.ReadLine();  
}  
}
```

8. Write a console program to print like below based on given range?

input: Enter your range: 21

output:

```
1  
2 3  
4 5 6  
7 8 9 10  
11 12 13 14 15  
16 17 18 19 20 21
```

Solution:-

```
using System;  
namespace RNREDDYLogicalprograms  
{  
    class Program  
    {  
        static void Main(string[] args)  
        {  
            Console.WriteLine("enter ur range");
```

```
int r = int.Parse(Console.ReadLine());
int k = 1;
for (int i = 1; i <= r; i++)
{
    for (int j = 1; j <= i; j++)
    {
        if (k > r)
            break;
        Console.Write(k + " ");
        k++;
    }
    Console.WriteLine();
    if (k > r)
        break;
}
Console.ReadLine();
}
```

9. Write a console program to print like bellow based on given range?

input: Enter your range: 21

output:

21 20 19 18 17 16

15 14 13 12 11

10 9 8 7

6 5 4

3 2

1

Solution:

```
using System;

namespace RNREDDYLogicalprograms
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("enter ur range");
            int n= int.Parse(Console.ReadLine());
            int k = n;
            for (int i = 6; i>=1; i--)
            {
                for (int j = i; j >=1; j--)
                {
                    Console.Write(k + " ");
                    k--;
                }
                Console.WriteLine();
                if (k == 0)
                    break;
            }
            Console.ReadLine();
        }
    }
}
```

10. Write a console program to print stars like below.

Output:

```
*  
  
**  
  
***  
  
****  
  
*****  
  
*****
```

Solution:-

```
using System;  
  
namespace RNREDDYLogicalprograms  
{  
    class Program  
    {  
        static void Main(string[] args)  
        {  
            int x, y;  
            for (x = 1; x <= 6; x++)  
            {  
                for (y = 1; y <= x; y++)  
                {  
                    Console.Write("*");  
                }  
                Console.WriteLine();  
            }  
            Console.ReadLine();  
        }  
    }  
}
```

```
}  
}
```

11. Write a console program to print stars like below.

Output:

```
*  
  
**  
  
***  
  
****  
  
*****  
  
*****
```

Solution:-

```
using System;  
  
namespace RNREDDYLogicalprograms  
{  
    class Program  
    {  
        static void Main(string[] args)  
        {  
            int x, y, z;  
            for (x = 6; x >= 1; x--)  
            {  
                for (y = 1; y < x; y++)  
                {  
                    Console.Write(" ");  
                }  
                for (z = 6; z >= x; z--)  
                {
```

```
        Console.Write("");  
    }  
    Console.WriteLine();  
}  
Console.ReadLine();  
}  
}  
}
```

12. Write a console program to print stars like below.

Output:

```
*****  
  
****  
  
***  
  
**  
  
*
```

Solution:-

```
using System;  
namespace RNREDDYLogicalprograms  
{  
    class Program  
    {  
        static void Main(string[] args)  
        {  
            int x, y;  
            for (x = 5; x >= 1; x--)  
            {  
                for (y = 1; y <= x; y++)
```

```
{  
    Console.Write("**");  
}  
    Console.WriteLine();  
}  
    Console.ReadLine();  
}  
}
```

13. Write a console program to print stars like below.

Output:

```
*****  
  
****  
  
***  
  
**  
  
*
```

Solution:-

```
using System;  
namespace RNREDDYLogicalprograms  
{  
    class Program  
    {  
        static void Main(string[] args)  
        {  
            int x, y, z;  
            for (x = 5; x >= 1; x--)  
            {
```

```
    for (y = 5; y > x; y--)
    {
        Console.Write(" ");
    }
    for (z = 1; z <= x; z++)
    {
        Console.Write("*");
    }
    Console.WriteLine();
}
Console.ReadLine();
}
}
```

14. Write a console program to print stars like below.

Output:

```
*

***

*****

*****
```

Solution:-

using System;

namespace RNREDDYLogicalprograms

```
{  
    class Program  
    {  
        static void Main(string[] args)  
        {  
            int x, y, z;  
            for (x = 1; x <= 5; x++)  
            {  
                for (y = x; y < 5; y++)  
                {  
                    Console.Write(" ");  
                }  
                for (z = 1; z < (x * 2); z++)  
                {  
                    Console.Write("*");  
                }  
                Console.WriteLine();  
                Console.ReadLine();  
            }  
        }  
    }  
}
```

15. Write a console program to print stars like below.

Output:

*

Solution:-

```
using System;
```

```
namespace RNREDDYLogicalprograms
```

```
{
```

```
class Program
```

```
{
```

```
static void Main(string[] args)
```

```
{
```

```
int x, y, z;
```

```
for (x = 5; x >= 1; x--)
```

```
{
```

```
for (y = 5; y > x; y--)
```

```
{
```

```
Console.Write(" ");
```

```
}
```

```
for (z = 1; z < (x * 2); z++)
```



```
{  
    Console.Write("");  
}  
Console.WriteLine();  
Console.ReadLine();  
}  
}  
}
```

16. Write a console program to print stars like below.

Output:

```
*  
  
* *  
  
* *  
  
* *  
  
*****
```

Solution:-

```
using System;  
namespace RNREDDYLogicalprograms  
{  
    class Program  
    {  
        static void Main(string[] args)  
        {  
            int x, y;  
            for (x = 1; x <= 5; x++)  
            {
```

```
    for (y = x; y < 5; y++)
    {
        Console.Write(" ");
    }
    for (y = 1; y <= (2 * x - 1); y++)
    {
        if (x == 5 || y == 1 || y == (2 * x - 1))
        {
            Console.Write("*");
        }
        else
        {
            Console.Write(" ");
        }
    }
    Console.WriteLine();
}
Console.ReadLine();
}
}
```

17..Write a console program to print characters like below.

Output:

A

BB

CCC

DDDD

EEEE

Solution:-

using System;

namespace RNREDDYLogicalprograms

{

class Program

{

static void Main(string[] args)

{

int x, y;

int z = 5;

for (x = 1; x <= z; x++)

{

for (y = 1; y <= x; y++)

{

Console.Write((char)(x + 64));

}

Console.WriteLine("");

}

Console.ReadLine();

```
    }  
    }  
}
```

18. Write a console program to print characters like below.

Output:

ABCDE

BCDE

CDE

DE

E

Solution:-

using System;

namespace RNREDDYLogicalprograms

{

class Program

{

static void Main(string[] args)

{

int x, y;

int z = 5;

for (x = 1; x <= z; x++)

{

for (y = x; y <= z; y++)

{

Console.Write((char)(y + 64));

}

Console.WriteLine();

```
    }  
    Console.ReadLine();  
}  
}  
}
```

19. Write a console program to print characters like below.

Output:

```
A  
ABA  
ABCBA  
ABCD CBA  
ABCDEDCBA  
ABCDEFEDCBA
```

Solution:-

```
using System;  
namespace RNREDDYLogicalprograms  
{  
    class Program  
    {  
        static void Main(string[] args)  
        {  
            int x, y;  
            int z = 6;  
            for (x = 1; x <= z; x++)  
            {  
                for (y = 1; y <= z - x; y++)  
                {
```

```
        Console.Write(" ");
    }
    for (y = 1; y <= x; y++)
    {
        Console.Write((char)(y + 64));
    }
    for (y = x - 1; y >= 1; y--)
    {
        Console.Write((char)(y + 64));
    }
    Console.WriteLine();
}
Console.ReadLine();
}
}
```

20.WAP to Print a BinaryTriangle

Enter the Number of Rows : 5

```
1
01
010
1010
10101
```

Solution:-

```
using System;

namespace RNREDDYLogicalprograms
{
```

```
class Program
{
    static void Main(string[] args)
    {
        int p, lastInt = 0, input;

        Console.WriteLine("Enter the Number of Rows : ");

        input = int.Parse(Console.ReadLine());

        for (int i = 1; i <= input; i++)
        {
            for (p = 1; p <= i; p++)
            {
                if (lastInt == 1)
                {
                    Console.Write("0");
                    lastInt = 0;
                }
                else if (lastInt == 0)
                {
                    Console.Write("1");
                    lastInt = 1;
                }
            }
            Console.WriteLine("\n");
            Console.ReadLine();
        }
    }
}
```

21. WAP to display below pattern

Output:

```
5
45
345
2345
12345
```

Solution:-

using System;

namespace RNREDDYLogicalprograms

```
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.Write("Enter the row no.");
            int input = int.Parse(Console.ReadLine());
            for (int row = 0; row < input; row++)
            {
                for (int col = input - row; col <= input; col++)
                { Console.Write(col); }
                Console.Write("\n");
            }
            Console.ReadLine();
        }
    }
}
```


22.. WAP to display vowels pattern.

Enter Number : 5

a
e i o
u a e i o
u a e i o u a

Solution:-

using System;

namespace RNREDDYLogicalprograms

```
{  
    class Program  
    {  
        static void Main(string[] args)  
        {  
  
            char[] arr = { 'a', 'e', 'i', 'o', 'u' };  
            int index = 0;  
            Console.Write("Enter Number.: ");  
            int input = int.Parse(Console.ReadLine());  
            for (int row = 1; row <= input; row++)  
            {  
                for (int col = 1; col <= input + (row - 1); col++)  
                {  
                    if (col <= input - row)  
                        Console.Write(" ");  
                    else  
                        {
```

```
        Console.Write(arr[index]);  
        index++;  
        if (index == input)  
            index = 0;  
    }  
}  
Console.WriteLine();  
Console.ReadLine();  
}  
}  
}
```

23.WAP to print the box pattern.

Input:5

Output:

```
1  2  3  4  5  
16         6  
15         7  
14         8  
13 12 11 10 9
```

Solution:-

```
using System;  
  
namespace RNREDDYLogicalprograms  
{  
    class Program  
    {  
        static void Main(string[] args)
```

```
{  
    Console.WriteLine("Enter a no.:");  
    int n = int.Parse(Console.ReadLine());  
    int r = n * 4 - 4, count = 1;  
    for (int row = 1; row <= n; row++)  
    {  
        for (int col = 1; col <= n; col++)  
        {  
            if (row == 1 || col == n)  
            {  
                if (col <= 9)  
                    Console.Write(count + " "); //two spaces  
                else  
                    Console.Write(count + " ");  
                count++;  
            }  
            else if (col == 1 || row == n)  
            {  
                if (r <= 9)  
                    Console.Write(r + " "); //two spaces  
                else  
                    Console.Write(r + " ");  
                r--;  
            }  
            else  
                Console.Write(" "); //three spaces  
        }  
    }  
}
```

```
Console.WriteLine(); //next line
```

```
Console.WriteLine(); //next lin
```

```
Console.ReadLine();
```

```
}
```

```
}
```

```
}
```

```
}
```

24.WAP to print the following pattern.

Input: 5

output:

```
1 2 3 4 5 4 3 2 1
```

```
1 2 3 4 4 3 2 1
```

```
1 2 3 3 2 1
```

```
1 2 2 1
```

```
1 1
```

Solution:-

```
using System;
```

```
namespace RNREDDYLogicalprograms
```

```
{
```

```
class Program
```

```
{
```

```
static void Main(string[] args)
```

```
{
```

```
Console.Write("Enter a number:");
```

```
int input = int.Parse(Console.ReadLine());
```

```
Console.WriteLine("\nPattern: \n");
```

```
for (int row = input; row >= 1; row--)
{
    for (int col = 1; col <= input; col++)
    {
        if (row >= col)
            Console.Write(col);
        else
            Console.Write(" ");
    }
    for (int col = input - 1; col >= 1; col--)
    {
        if (row >= col)
            Console.Write(col);
        else
            Console.Write(" ");
    }
    Console.WriteLine();
    Console.ReadLine();
}
}
```

25.WAP to write Pascal Triangle Logical Pattern

Enter a No.:

```
1
1 1
1 2 1
1 3 3 1
```

Solution:-

using System;

namespace RNREDDYLogicalprograms

```
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Enter a No.:");
            int input = int.Parse(Console.ReadLine());
            for (int row = 0; row < input; row++)
            {
                for (int s = row; s < input - 1; s++)
                {
                    Console.WriteLine(" ");
                    int count = 1;
                    for (int col = 0; col <= row; col++)
                    {
                        Console.WriteLine(count + " ");
                        count = count * (row - col) / (col + 1);
                    }
                    Console.WriteLine();
                    Console.ReadLine();
                }
            }
        }
    }
}
```

STRING HANDLING PROGRAMS

1. Write a Program To Find the Longest word in a given string

Input: Rama is a good boy

Output: good

Solution:

internal class Program

```
{  
    static void Main(string[] args)  
    {  
        string str = "Rama is a good boy";  
        string[] words = str.Split(new[] { " " }, StringSplitOptions.None);  
        string word = " ";  
        int count = 0;  
        foreach (string s in words)  
        {  
            word = s;  
            count = s.Length;  
        }  
        Console.WriteLine(word);  
        Console.ReadLine();  
    }  
}
```

2. Write a Program To reverse each word in a given sentence.

Input: Welcome To Rnreddy IT School

Output: emocLeW oT yddernR TI loohcS

Solution:

internal class Program

```
{  
    static void Main(string[] args)
```



```
{  
    Console.WriteLine("enter your string");  
    string str = Console.ReadLine();  
    string strrev = "";  
    foreach (var word in str.Split(' '))  
    {  
        string temp = "";  
        foreach (var ch in word.ToCharArray())  
        {  
            temp = ch + temp;  
        }  
        strrev = strrev + temp + " ";  
    }  
    Console.WriteLine(strrev);  
    Console.ReadLine();  
}
```

3.Program to count number of words in a string.

input: Enter a string: Rn Reddy It School

output: 4

solution:

class Program

```
{  
    static void Main(string[] args)  
    {  
        string str;  
        int wrd, l;  
  
        Console.WriteLine("\n\nCount the total number of words in a string :\n");
```

```
Console.Write("-----\n");
Console.Write("Input the string : ");
str = Console.ReadLine();
l = 0;
wrd = 1;
/* loop till end of string */
while (l <= str.Length - 1)
{
    /* check whether the current character is white space or new line or
    tab character*/
    if (str[l] == ' ' || str[l] == '\n' || str[l] == '\t')
    {
        wrd++;
    }
    l++;
}
Console.Write("Total number of words in the string is : {0}\n", wrd);
Console.ReadLine();
}
```

4. Write a function that given two string s1 and s2, it will return s1 minus s2 and it has to use same location without using pre defined functions.

Input: enter string s1

abcd8

enter string s2

b

Output:acd8

Solution:

```
class Program
{
    static void Main(string[] args)
    {
        Console.WriteLine("Enter string1:");
        string s1 = Console.ReadLine();
        Console.WriteLine("Enter string s2:");
        string s2 = Console.ReadLine();
        string s3 = s1.Replace(s2, "");
        Console.WriteLine(" string1 Minus String2: "+s3);
        Console.ReadLine();
    }
}
```

5. Given a string, write a program to find the character highest frequency

Input: aaabbccccc

Output: c

Solution:

```
class Program
{
    static void Main(string[] args)
    {
        string str;
        int[] ch_fre = new int[255];
        int i = 0, max, l;
        int ascii;

        Console.WriteLine("\n\nFind maximum occurring character in a string :\n");
```

```
Console.Write("-----\n");
Console.Write("Input the string : ");
str = Console.ReadLine();
l = str.Length;
for (i = 0; i < 255; i++) //Set frequency of all characters to 0
{
    ch_fre[i] = 0;
}
/* Read for frequency of each characters */
i = 0;
while (i < l)
{
    ascii = (int)str[i];
    ch_fre[ascii] += 1;
    i++;
}
// Console.Write("{0} ",(char)65);
max = 0;
for (i = 0; i < 255; i++)
{
    if (i != 32)
    {
        if (ch_fre[i] > ch_fre[max])
            max = i;
    }
}
Console.Write("The Highest frequency of character '{0}' is appearing for number
```

```
of times : {1} \n\n", (char)max, ch_fre[max]);
```

```
Console.ReadLine();
```

```
}
```

6. Write a program to print frequency of each character in a given string when count a character like below

input: Enter a string: rn reddy it school

output: r-2 n-1 e-1 d-2 y-1 s-1 t-1 i-1 c-1 h-1 o-2 l-1

solution:

```
class Program
```

```
{
```

```
    static void Main(string[] args)
```

```
    {
```

```
        Console.Write("Enter String.");
```

```
        string input = Console.ReadLine();
```

```
        while (input.Length > 0)
```

```
        {
```

```
            Console.Write(input[0] + "-");
```

```
            int count = 0;
```

```
            for (int j = 0; j < input.Length; j++)
```

```
            {
```

```
                if (input[0] == input[j])
```

```
                {
```

```
                    count++;
```

```
                }
```

```
            }
```

```
            Console.Write(count + " ");
```

```
            input = replace(input, input[0]);
```

```
}  
    Console.ReadLine();  
}  
}
```

7. Write a Program to copy 'n' number of characters from one string to another at position 'p'

Enter string 1: IT hub

Enter String 2: Nexgile Solutions

N: 2

P: 8

Output: Nexgile IT Solutions.

Solution:

class Program

```
{  
    static void Main(string[] args)  
    {  
        Console.Write("Enter String 1\t: ");  
        string s1 = Console.ReadLine();  
        Console.Write("\nEnter String 2\t: ");  
        string s2 = Console.ReadLine();  
        char[] c = s2.ToCharArray();  
        Console.WriteLine("\n\nString 1\t:\t{0}\nString2 \t:\t{1}\n\n", s1,s2);  
        Console.WriteLine("Enter Number of Characters\t:\t");  
        int noc = int.Parse(Console.ReadLine());  
        Console.WriteLine("\nEnter position\t:\t \n");  
        int pos = int.Parse(Console.ReadLine());  
        for (int i = 0; i < s2.Length; i++)
```

```
{
    if (i == pos - 1)
    {
        Console.Write(" ");
        for (int j = 0; j < noc; j++)
        {
            Console.Write(s1[j]);
        }
        Console.Write(" ");
    }
    Console.Write(c[i]);
}
Console.ReadLine();
}
```

8.Swap neighbour char in string, for Example string "TAPAN" would be ATAPN

Input:TAPAN

Output:ATAPN

Solution:

```
class Program
{
    static void Main(string[] args)
    {
        Console.WriteLine("Enter a string:");
        string s = Console.ReadLine();
        char[] c = s.ToCharArray();
        int n;
        char temp;
```

```
if (c.Length % 2 == 0)
{
    n = c.Length;
}
else
{
    n = c.Length - 1;
}
for (int i = 0; i < n; i = i + 2)
{
    temp = c[i];
    c[i] = c[i + 1];
    c[i + 1] = temp;
    Console.Write(c[i]);
    Console.Write(c[i + 1]);
}
if (n < c.Length)
{
    Console.WriteLine(c[c.Length - 1]);
}
Console.ReadLine();
}
```


9.How will you find the longest palindrome in a String? i.e., if the string is XMADAMY your palindrome in a String? i.e., if the string is XMADAMY your code should print MADAM.

Input:XMADAMY

Output:MADAM

Solution:

```
class Program
{
    private static string GetLongestPalindrome(string input)
    {
        int rightIndex = 0, leftIndex = 0;
        List<string> paliList = new List<string>();
        string currentPalindrome = string.Empty;
        string longestPalindrome = string.Empty;
        for (int currentIndex = 1; currentIndex < input.Length - 1; currentIndex++)
        {
            leftIndex = currentIndex - 1;
            rightIndex = currentIndex + 1;
            while (leftIndex >= 0 && rightIndex < input.Length)
            {
                if (input[leftIndex] != input[rightIndex])
                {
                    break;
                }
                currentPalindrome = input.Substring(leftIndex, rightIndex - leftIndex + 1);
                paliList.Add(currentPalindrome);
                leftIndex--;
            }
        }
    }
}
```

```
        rightIndex++;
    }
}

var x = (from c in paliList
        select c).OrderByDescending(w => w.Length).First();

return x;
}

static void Main(string[] args)
{
    Console.WriteLine("Enter ur string: ");
    var str = Console.ReadLine();
    var longestPalindrome = GetLongestPalindrome(str);
    Console.WriteLine(longestPalindrome);
    Console.ReadLine();
}
```

10.WAP to Display no.of strings,vowels,consonants in the given string

Here is the output of the C# Program:

Enter String : seshu sanju

Vowels : 4

Consonants is : 6

No of Words is : 2

Solution:

```
internal class Program
{
    static void Main(string[] args)
    {
        Console.Write("Enter String : ");
```

```
string str = Console.ReadLine();
int vowels = 0;
int consonants = 0;
int words = 1;
char[] chr = str.ToCharArray();
for (int i = 0; i < chr.Length; i++)
{
    if (chr[i] == 32)
    {
        words++;
        continue;
    }
    else
    {
        if (chr[i] == 'a' || chr[i] == 'e' || chr[i] == 'i' || chr[i] == 'o' || chr[i] == 'u' ||
            chr[i] == 'A' || chr[i] == 'E' || chr[i] == 'I' || chr[i] == 'O' || chr[i] == 'U')
        {
            vowels++;
        }
        else
        {
            consonants++;
        }
    }
}

Console.WriteLine("Vowels is : " + vowels);

Console.WriteLine("Consonants is : " + consonants);
```

```
        Console.WriteLine("No of Words is : " + words);

        Console.ReadLine();

    }

}
```

11.Remove duplicate characters in a String?

input:csharpstar

output:csharpt

solution:

```
using System;
class Program
{
    static void Main()
    {
        string value1 = RemoveDuplicateChars("Csharpstar");

        Console.WriteLine(value1);
    }
    static string RemoveDuplicateChars(string key)
    {
        string table = "";
        string result = "";
        foreach (char value in key)
        {
            if (table.IndexOf(value) == -1)
            {
                table += value;
                result += value;
            }
        }
        return result;
    }
}
```

12.How to check if two Strings are anagrams of each other?

example:secure-->rescue

solution:

```
using System;
namespace Anagram
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.Write("Enter first word:");
        }
    }
}
```

```
string word1 = Console.ReadLine();
Console.Write("Enter second word:");
string word2 = Console.ReadLine();

char[] char1 = word1.ToLower().ToCharArray();
char[] char2 = word2.ToLower().ToCharArray();

Array.Sort(char1);
Array.Sort(char2);

string NewWord1 = new string(char1);
string NewWord2 = new string(char2);

if (NewWord1 == NewWord2)
{
    Console.WriteLine("Yes! Words \"{0}\" and \"{1}\" are Anagrams", word1, word2);
}
else
{
    Console.WriteLine("No! Words \"{0}\" and \"{1}\" are not Anagrams", word1,
word2);
}
Console.ReadLine();
}
```

13.How to check if String is Palindrome or not?

input:madam

output: it is a palindrome

solution:

```
using System;
namespace consoleapp4
{
    internal class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("enter ur string");
            string s=Console.ReadLine();
            string rev = null;
            for(int i = s.Length-1;i>=0 ; i--)
            {
                rev=rev+s[i];
            }
            Console.WriteLine("reverse string is:"+rev);
            if (s==rev)
                Console.WriteLine("it is a palindrome");
            else
```

```
        Console.WriteLine("it is not a palindrome");
        Console.ReadLine();
    }
}
```

14.How to determine if the string has all unique characters?

solution:

```
using System;
public class GFG
{
    static bool uniqueCharacters(String str)
    {
        for (int i = 0; i < str.Length; i++)
            for (int j = i + 1; j < str.Length; j++)
                if (str[i] == str[j])
                    return false;
        return true;
    }
    public static void Main()
    {
        Console.WriteLine("enter ur input");
        string input = Console.ReadLine();

        if (uniqueCharacters(input) == true)
            Console.WriteLine("The String " + input
                               + " has all unique characters");
        else
            Console.WriteLine("The String " + input
                               + " has duplicate characters");
        Console.ReadLine();
    }
}
```

15.Find all substring in a string?

output:abc

input:a

b

c

ab

bc

abc

solution:

```
using System;
class GFG
{
    static void find_substrings(string input_string)
```

```
{
    int j = 0;
    int i = 0;
    for (i = 1; i <= input_string.Length; i++)
    {
        for (j = 0; j <= input_string.Length - i; j++)
        {
            Console.WriteLine(input_string.Substring(j, i));
        }
    }
}

public static void Main()
{
    string input_string;

    Console.Write("Enter String : ");
    Console.WriteLine("\n");

    input_string = Console.ReadLine();

    find_substrings(input_string);
    Console.ReadLine();
}
}
```

16.How to print first non repeated character from String?

input:rnreddyitschool

op: first non-repeating character is n

solution:

using System;

```
public static class GFG
{
    public static void FirstNonRepeat(string s)
    {
        for (int i = 0; i < s.Length; i++)
        {
            if (s.IndexOf(s[i], s.IndexOf(s[i]) + 1)
                == -1)
            {
                Console.Write(
                    "First non-repeating character is "
                    + s[i]);
                break;
            }
        }
    }
    return;
```

```
}
internal static void Main()
{
    Console.WriteLine("enter ur string");
    string s = Console.ReadLine();
    FirstNonRepeat(s);
    Console.ReadLine();
}
}
```

17.How to remove special characters from String?

input:\$c!sh\$arp&st%ar

output:csharpstar

solution:

using System;

public class Program

```
{
    public static void Main(string[] args)
    {
        string str = "$c!sh$arp&st%ar";
        Console.WriteLine(RemoveSpecialChars(str));
        Console.ReadLine();
    }
    public static string RemoveSpecialChars(string str)
    {
        // Create a string array and add the special characters you want to remove
        string[] chars = new string[] { " ", ".", "/", "!", "@", "#", "$", "%", "^", "&", "*", "(", ")", "\\", ";",
        "_", "(", ")", ":", "|", "[", "]" };
        //Iterate the number of times based on the String array length.
        for (int i = 0; i < chars.Length; i++)
        {
            if (str.Contains(chars[i]))
            {
                str = str.Replace(chars[i], "");
            }
        }
        return str;
    }
}
```

18.How to reverse String in C# using Iteration ?

input:rama

output:amar

solution:

using System;

class GFG

```
{
    static void reverseStr(String str)
```



```
{
    int n = str.Length;
    char[] ch = str.ToCharArray();
    char temp;

    for (int i = 0, j = n-1; i<j; i++, j--)
    {
        temp = ch[i];
        ch[i] = ch[j];
        ch[j] = temp;
    }
    Console.WriteLine(ch);
}
public static void Main(String[] args)
{
    Console.WriteLine("enter ur string");
    String s = Console.ReadLine();
    reverseStr(s);
    Console.ReadLine();
}
}
```

19.join two strings?

output:string str1: C#

string str2: Programming

Joined string: C# Programming

Solution:

```
using System.Text;using System;
```

```
using System.Threading.Tasks;
```

```
namespace ConsoleApp15
```

```
{
    internal class Program
    {
        static void Main(string[] args)
        {

            string str1 = "C# ";
            Console.WriteLine("string str1: " + str1);

            // create string
            string str2 = "Programming";
            Console.WriteLine("string str2: " + str2);

            // join two strings
            string joinedString = string.Concat(str1, str2);
            Console.WriteLine("Joined string: " + joinedString);
        }
    }
}
```

```
        Console.ReadLine();
    }
}
```

20.compare two strings are equal are not?

output:string str1 and str2 are equal: True
string str1 and str3 are equal: False

solution:

```
using System;
namespace CsharpString

    public static void Main(string [] args)

        // create string
        string str1 = "C# Programming";
        string str2 = "C# Programming";
        string str3 = "Programiz";

        // compare str1 and str2
        Boolean result1 = str1.Equals(str2);
        Console.WriteLine("string str1 and str2 are equal: " + result1);

        //compare str1 and str3
        Boolean result2 = str1.Equals(str3);
        Console.WriteLine("string str1 and str3 are equal: " + result2);

        Console.ReadLine();
    }
}
```

21.write the code for this series?

input:aaabbccccc
output:a3b2c4

solution:

```
class program
{
    static void main(string[]args)
    {
        Console.Write("enter ur string:");
        string s=Console.ReadLine();
        char[]ch=s.ToCharArray();
        Console.Write(" ");
        for(int i=0;i<ch.length;i++);
        {
            int count=1;
```

```
if(ch[i]!='@');
{
    Console.Write(ch[i]);
    for(int j=i+1;j<ch.length;j++)
    {
        if(s[i]==s[j])
        {
            count++;ch[j]='@';
        }
    }
    Console.Write(count);
}
}
Console.ReadLine();
}
```

22.string in numbers pattern?

output:enter ur srting
interview

i
i n
i n t
i n t e
i n t e r
i n t e r v
i n t e r v i
i n t e r v i e
i n t e r v i e w

solution:

```
namespace ConsoleApp6
{
    internal class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("enter ur srting");
            string str = Console.ReadLine();
            for(int i=0;i<str.Length; i++)
            {
                for(int j=0;j<=i; j++)
                {
                    Console.Write(str[j]+" ");
                }
                Console.WriteLine();
            }
            Console.ReadLine();
        }
    }
}
```

23.write length of the string?

output:string: C# Programming
Length: 14

Solution:

```
namespace ConsoleApp19
{
    internal class Program
    {
        static void Main(string[] args)
        {
            // create string
            string str = "C# Programming";
            Console.WriteLine("string: " + str);

            // get length of str
            int length = str.Length;
            Console.WriteLine("Length: " + length);

            Console.ReadLine();
        }
    }
}
```

24.Write a Program to Sort a List of Names in Alphabetical Order

Input:Ram Rose Abs Edward Sita

Output:

Abs

Edward

Ram

Rose

Sita

Solution:

```
internal class Program
{
    static void Main(string[] args)
    {
        List<string> names = new List<string>();
```

```
names.Add("Ram");
names.Add("Rose");
names.Add("Abs");
names.Add("Edward");
names.Add("Sita");
names.Sort();
Console.WriteLine("Output: \n");
foreach (string s in names)
    Console.WriteLine(s);
Console.ReadLine();
}
```

25.check if string is rotated by two places?

input: amazon

output: mazano

solution:

internal class Program

```
{
    static void Main(string[] args)
    {
        Console.Write("Please Enter a String\t: ");
        string s = Console.ReadLine();
        Console.WriteLine("After Changing Positions\n");
        char[] c = s.ToCharArray(); char temp;
        for (int i = 0; i < s.Length; i = i + 2)
        {
            if ((i + 2) >= s.Length && (s.Length % 2 != 0))
            {
```

```
        Console.WriteLine(c[i]); break;
    }
    else if ((i + 2) >= s.Length && (s.Length % 2 != 0))
    {
        Console.WriteLine(c[i] + " " + c[i + 1]);
        break;
    }
    temp = c[i]; c[i] = c[i + 1];
    c[i + 1] = temp;
    Console.WriteLine(c[i] + " " + c[i + 1] + " ");
}
Console.ReadLine();
```



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