Core C# Programming Constructs

S1P2-CUSTOMIZED WELCOME MESSAGE

Customized Welcome Message

William, the founder of "Pine Tree" company wished to design an Event Management System that would let its Customers plan and host events seamlessly via an online platform.

As a part of this requirement, William wanted to write a piece of code for his company's Event Management System that will display customized welcome messages by taking the Customer's name as input. Write a program to achieve William's task.

Input Format:

The first line of the input is a string that corresponds to a Customer's name.
[Note: The maximum length of the input string is 50]

Output Format:

The output should display the welcome message along with the Customer's name. Refer sample input and output for formatting specifications.

[All text in bold corresponds to input and the rest corresponds to output.]

Sample Input and Output:

Enter your name
Chloe
Hello Chloe! Welcome to Event Management System.

Top of Form
Bottom of Form

```
using System;

class Program {
    public static void Main(String[] args) {
    String name;
    Console.WriteLine("Enter your name");
    name = Console.ReadLine();
    Console.WriteLine("Hello "+name+"! Welcome to Event Management System.");
    Console.ReadLine();
    }
}
```

S1P5-TOTAL EXPENSES FOR THE EVENT

Total Expenses for the Event

The prime functionality of an Event Management System is budgeting. An Event Management System should estimate the total expenses incurred by an event and the percentage rate of each of the expenses involved in planning and executing an event. William, the founder of "Pine Tree" wanted to include this functionality in his company's Event Management System.

Write a program to get the branding expenses, travel expenses, food expenses, and

logistics expenses as inputs from the user and calculate the total expenses for an event and the percentage rate of each of these expenses.

Note :
Formula to calculate percentage = (Expenses to be found/Total expenses)*100

Input Format:

The first input is a Double value that corresponds to the branding expenses.
The second input is a Double value that corresponds to the travel expenses.
The third input is a Double value that corresponds to the food expenses.
The fourth input is a Double value that corresponds to the logistics expenses.

Output Format:

The first line of the output should display the double value that corresponds to the total expenses for the Event.
The next four lines should display the percentage rate of each of the expenses.
All the double values should be displayed upto 2 decimal places.
Refer sample input and output for formatting specifications.

[All text in bold corresponds to input and the rest corresponds to output.]

Sample Input and Output:

Enter branding expenses
20000
Enter travel expenses
40000
Enter food expenses
15000
Enter logistics expenses
25000
Total expenses: Rs.100000.00
Branding expenses percentage: 20.00%
Travel expenses percentage: 40.00%
Food expenses percentage: 15.00%
Logistics expenses percentage: 25.00%

Top of Form
Bottom of Form

```
using System;

class Program {
   public static void Main(String[] args) {
    int be, te, fe, le, total;
        Console.WriteLine("Enter branding expenses");
        be = Convert.ToInt32(Console.ReadLine());
        Console.WriteLine("Enter travel expenses");
        te = Convert.ToInt32(Console.ReadLine());
        Console.WriteLine("Enter food expenses");
        fe = Convert.ToInt32(Console.ReadLine ());
        Console.WriteLine("Enter logistics expenses");
        le = Convert.ToInt32(Console.ReadLine());
```

```
        total = (be + te + fe + le);
        Console.WriteLine("Total expenses: Rs." + total + ".00");
        Console.WriteLine("Branding expenses percentage: {0:0.00}%" ,  ((double) be / total) * 100);
        Console.WriteLine("Travel expenses percentage: {0:0.00}%" ,  ((double) te / total) * 100);
        Console.WriteLine("Food expenses percentage: {0:0.00}%" ,  ((double) fe / total) * 100);
        Console.WriteLine("Logistics expenses percentage: {0:0.00}%" , ((double) le  /total) * 100);




    }
  }
```

S2P3-THRILL RIDE

Thrill ride

"Zebra Kingdom" is a brand new Amusement park that is going to be inaugurated shortly in the City and is promoted as the place for breath-taking charm. The theme park has more than 30 exhilarating and thrilling rides and as a special feature of the park, the park Authorities have placed many Booking Kiosks at the entrance which would facilitate the public to purchase their entrance tickets and ride tickets.

There are few rides in the park that are not suitable for children and aged people, hence the park Authorities wanted to program the kiosks to issue the tickets based on people's age. If the age has given is less than 15 (Children) or greater than 60 (Aged), then the system should display as "**Not Allowed**", otherwise it should display as "**Allowed**".
Write a program to implement this functionality.

Input Format:

The first line of the input is an integer that corresponds to the age of the person opting for the ride.

Output Format:

The output should display "**Allowed**" or "**Not Allowed**" based on the conditions given. Refer sample input and output for formatting specifications.

Sample Input 1:

20

Sample Output 1:

Allowed

Explanation:

20 is greater than 15, so the output is "Allowed"

Sample Input 2:

12

Sample Output 2:

Not Allowed

Explanation:

12 is less than 15, so the output is "Not Allowed"

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
namespace ZebraKingdome
{
  class Program
  {
    static void Main(string[] args)
    {
      int age;
      age = Convert.ToInt32(Console.ReadLine());
      if (age < 15)
      {
        Console.WriteLine("Not Allowed");

      }
      else if (age > 60)
      {
        Console.WriteLine("Not Allowed");

      }
      else
      {
        Console.WriteLine("Allowed");

      }
      Console.ReadLine();

    }
  }
}
```

STAR PATTERN

Star Pattern

Write a program to generate a pattern of stars.

Input and Output Format:

Input consists of a single integer that corresponds to **n**, the number of rows.
Refer sample input and output for formatting specifications.

[All text in bold corresponds to input and the rest corresponds to the output.]

Sample Input and Output 1:
5
```
*
**
***
****
*****
```

Sample Input and Output 2:
3
```
*
**
***
```

```
using System;
class Program
  {
    public static void Main(String[] args)
     {
       int i, j, n;
       n= Convert.ToInt32(Console.ReadLine());
       for (i = 1; i <=n; i++)
       {
         for (j = 1; j <= i; j++)
         {
           Console.Write("*");
         }
         Console.Write("\n");
       }
        Console.ReadLine();
}
}
```

MARK'S SCHOLARSHIP

Mark's Scholarship

Mark studies at Teswan National University. Now is the time for exam results. Mark hopes that his scores in 5 subjects in the exam could fetch him a scholarship for his GRE preparation.

The following simple rules are used to find whether he is eligible to receive the scholarship:

- The University follows **5** point grading system. In an exam, a student can receive any score from 2 to 5. 2 is called an F grade, meaning that the student has failed that exam.
- The student should not have failed any of the exams.
- The Student must obtain a full score in some of his/her exams to show that he/she is excellent in some of the subjects.
- He/She must have a grade point average not less than **4.**

You are given information regarding how Mark performed in those 5 subjects. Write a program to check whether he will receive the scholarship or not.

Input Format:
The input contains 5 integers denoting Mark's 5 subjects score in the exam.

Output Format:
Output a single line - "Yes" (without quotes) if Mark will receive the scholarship, otherwise "No" (without quotes).
Refer sample input and output for formatting specifications.

[All text in bold corresponds to input and the rest corresponds to the output.]

Sample Input and Output 1:

Enter the subject 1 mark
3
Enter the subject 2 mark
5
Enter the subject 3 mark
4
Enter the subject 4 mark
4
Enter the subject 5 mark
3
No

Sample Input and Output 2:

Enter the subject 1 mark
3
Enter the subject 2 mark
4
Enter the subject 3 mark
4
Enter the subject 4 mark
4
Enter the subject 5 mark
5
Yes

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

```csharp
namespace studentmarks
{
    class Program
    {
        public static void Main(String[] args)
        {


            int s1, s2, s3, s4, s5, avg;



            Console.WriteLine("Enter the subject 1 mark");
            s1 = Convert.ToInt32(Console.ReadLine());



            Console.WriteLine("Enter the subject 2 mark");
            s2 = Convert.ToInt32(Console.ReadLine());



            Console.WriteLine("Enter the subject 3 mark");
            s3 = Convert.ToInt32(Console.ReadLine());



            Console.WriteLine("Enter the subject 4 mark");
            s4 = Convert.ToInt32(Console.ReadLine());



            Console.WriteLine("Enter the subject 5 mark");
            s5 = Convert.ToInt32(Console.ReadLine());



            avg = (s1 + s2 + s3 + s4 + s5) / 5;



            if (s1 <= 2 || s2 <= 2 || s3 <= 2 || s4 <= 2 || s5 <= 2)
            {
                Console.WriteLine("No");
            }
            else if (avg >= 4)
                Console.WriteLine("Yes");
```

```
        else
            Console.WriteLine("No");




    }
  }
}
```

S3P16-SERIES1

Hazecraft Client Series

The Event Organizing Company "Hazecraft" focuses on event management in a way that creates a win-win situation for all involved stakeholders. Hazecraft doesn't look at building one time associations with clients but aim at creating long-lasting collaborations that will span years to come. This goal of the company has helped them to evolve and gain more clients within a notable time.

The number of clients of the company from the start day of their journey till now is recorded sensibly and is seemed to have followed a specific series like 2,3,5,7,11,13,17,19, 23,…, etc

Write a program that takes an integer N as the input and will output the series till the Nth term.

Note:
The given series is prime number series.

Input Format:

The first line of the input is an integer N.

Output Format:

The output is a single line series till Nth term, each separated by a space.
Refer sample input and output for formatting specifications.

Sample Input 1:

5

Sample Output 1:

2 3 5 7 11

Sample Input 2:

10

Sample Output 2:

2 3 5 7 11 13 17 19 23 29

using System;

```csharp
public class Program
{
 public static void Main(string[] args)
{
int i, j, n, count = 1, b=0;
  n = Convert.ToInt32(Console.ReadLine());
   for (i=2; i > 0; ++i)
{
   for (j = 2; j <= i / 2; ++j)
{
    if (i % j == 0)
{
   b = 1;
   break;
}
}
if (b == 0)
{
Console.Write(" " + i);
count++;
}
b = 0;
if (count == n+1)
 break;
}
}
}
```