**The Dice Game**

After each step, copy the whole of the code you have written to that point and place it in a Word document under a clear heading – eg **Stage 1** **– Random Die Roll**. Run the program and take a screenshot of it working. Place that underneath your code for the stage and write a sentence or two to explain what is being shown.

Your program will have the line **Console.Readline()** as its last line. The last line comes before the words **End Sub**.

1. Use the following guidance to write a short program that outputs a random die roll (ie a number from 1 – 6)

*Dim randomNumberGenerator as New Random*

When you make a random number, you have to say what range you want the number to have. If we wanted to go from 3 to 6, we would need to write,

*Dim roll as Integer  
roll = randomNumberGenerator.Next(3, 7)*

2. Adapt your program so that it outputs 10 rolls of the die, one on each line. Use a FOR loop that counts from 1 to 10 and generate your die roll inside the loop, outputting the result each time. Add a **Console.Readline()** statement just before the **Next** so that you have to press enter before each roll.

Test your program a few times and make sure you have seen all of the numbers from 1 to 6 appear.

3. Adapt your program so that it keeps a running total of the die rolls. Declare a variable for this before the loop starts. Make the variable equal to 0 before the loop starts. Inside the loop, add the die roll to the total (total = total + roll). Output the die roll and the running total each time the loop repeats.

4. Adapt your program so that the player is rolling two dice. Declare a variable called **roll2** and another called **subtotal**. Do this before the loop. Make sure that the subtotal is now added to the running total each time.

5. Adapt the program so that there are two players, the user and the computer. Create a variable to store the computer’s total. Inside the loop, after the player’s dice rolls are complete, use the roll, roll2 and subtotal variables to generate dice rolls for the computer. Output the computer’s subtotal and running total each time too.

6. After the loop has finished and all 10 dice rolls have been made, use an IF statement to compare the player and computer total. Have the program say whether the player won, the computer won or if the game resulted in a draw.

7. Final touches. Get the player to enter their name at the start of the program. For each round of dice rolls, output the player’s name, dice rolls, subtotal and running total.