# Programming 2

## Techniques

|  |  |
| --- | --- |
| **IF statements** | Use IF statements to have your program make decisions based on the values store in variables. |

* Present your work on these tasks in a single Word document. Make sure that the document is saved with the filename **Programming 2 Username**, replacing ‘username’ with your username.
* Each time you complete a part of the task, you will need to record that in your document.
* Use task numbers and letters as well as headings and make sure you present your work clearly.
* Use copy and paste to put your code for the programming parts of the task.
* Type your answers to the other questions.

## Task 1

Copy the following program and run.

 Dim age As Integer

 age = 9

 Console.WriteLine("Age Alert.")

 If age < 40 Then

 Console.WriteLine("Not human.")

 End If

 Console.ReadLine()

1. Change the program so that the user enters their age.
2. Change the program so that it tells the user if they are older than your age.

## Task 2

 Dim age As Integer

 age = 9

 Console.WriteLine("Age Alert.")

 If age < 10 Then

 Console.WriteLine("Baby")

 ElseIf age > 90 Then

 Console.WriteLine("Old")

 Else

 Console.WriteLine("{0} years old.", age)

 End If

 Console.ReadLine()

1. Change the program so that the user enters their age.
2. Change the program so that it outputs the following information depending on the age entered,

|  |  |
| --- | --- |
| **Age** | **Output** |
| Less than 3 | Ickle |
| Less than 5 | Nursery |
| Less than 8 | Very little school |
| Less than 11 | Little school |
| Less than 19 | Big school |
| Any other age | Big bad world |

## Task 3

 Dim age As Integer

 Dim forename As String

 age = 9

 forename = "Dave"

 If age < 10 Or forename = "Dave" Then

 Console.WriteLine("Baby Dave")

 Else

 Console.WriteLine("{0} is {1} years old.", age, forename)

 End If

 Console.ReadLine()

1. Correct this program
2. Change the program so that the age and name are entered by the user.
3. Remove the IF statement. Rewrite it so that if the forename entered by the user is the same as your name AND the user’s age is greater than yours, it outputs “Double Dave” (your name replaces Dave). If the user enters your name, it should output “Fellow Dave”. For all other names and ages, it should output “No”. Include some screenshots to show how you tested that this program always works.

## Task 4

 Dim randomNumberGenerator As New Random

 Dim called As String

 Dim toss As Integer

 Dim tossed As String

 toss = randomNumberGenerator.Next(2)

 Console.Write("Call it. (h)eads or (t)ails? ")

 called = Console.ReadLine()

 If toss = 0 Then

 **?**

 Else

 **?**

 End If

 If tossed = called Then

 **?**

 Else

 **?**

 End If

 Console.ReadLine()

1. The user should enter an **h** or a **t** to call the coin toss. You need to replace the question marks with lines of code that will make the program toss a coin and say whether the player won the toss. (HINTS: The first IF statement will need you to assign a value to the variable tossed. The value will be either “h” or “t”. You decide whether 0 means heads or tails. The other IF statement needs output statements)
2. The program currently generates a random number, either 0 or 1. The number it generates is an integer and is less than the number in the brackets. If you increased the number to 3, how would this change the game. Do this with your program. Is it better to choose heads or tails with your program? How do you know? You can use screenshots to explain your answer.