## **Question: What are loops and why do I need to use them?**

Loops are used in computer programming to repeat a process, to do the same thing to a number of items or to do the same code over and over again. A loop can happen a number of times (discrete loop or finite loop), or go on for ever (an infinite loop).

**Question: So, what are the different types of loop I can use in C#?**

1. The for loop
2. The foreach loop
3. The while loop
4. The do … while loop

**Question: OK, how do I use a loop in C#?**

BTW, the word iteration is closely associated with loops.

1. The for loop has 4 parts, an initialization part, an ending condition, something that happens each time through the loop, and a loop body.

for (int index = 0; index < max\_count; index++)

{

// Body of loop

}

1. The foreach loop is a convenience for getting through a collection, ‘for each’ item in the collection. Suppose we have a list, allNames, of strings. All strings in the list will be printed.

foreach (string name in allNames)

Console.WriteLine(name);

1. The while loop in C# involves a condition, in this case, index less than the number of items in the list

int index = 0;

while (index < allNames.Count) {

Console.WriteLine(allNames[index]);

index++;

}

1. This is not in the video but it does exist in C#. This do … while loop ensures that the loop happens at least one time. It is not often used, because it is very typical to have a condition govern execution of the body of the loop.

int MAX = 4;

index = 0;

do

{

Console.WriteLine(index);

index++;

} while (index < MAX);