

Chapter four

Iteration

What is “iteration”?

- iteration: is the form of program control that allows us to instruct the computer to carry out a task several times by repeating a section of code.
- For this reason this form of control is often also referred to as repetition.
- Controlling this repetition is by using “loop”

There are three types of loops:

- for loop;
- while loop;
- do..while loop.

- Input validation: checking input data for errors.
- For input validation it is best to use “while” loop.

The difference between “break” & “continue”

- In the “for” loop; the “break” statement forces a loop to terminate, while a “continue” statement forces a loop to skip the remaining instructions in the body of the loop and to continue to the next iteration.

Picking the right loop

How to use the most appropriate loop for your program?

- If the number of repetitions required can be determined prior to entering the loop – use a **for** loop;
- If the number of repetitions required cannot be determined prior to entering the loop, and you wish to allow for the possibility of zero repetitions – use a **while** loop;
- If the number of repetitions required cannot be determined before the loop, and you require at least one repetition of the loop – use a **do..while** loop.