

Pseudocode: Basic Iteration

Pseudocode is a simple, language-independent way of writing an algorithm. It uses structured words such as Start, while, if, and End to describe a computation clearly, without following the strict rules of a real programming language.

1. Why use pseudocode?

Flowcharts are useful because they show the flow of a process visually. However, for larger problems they can become too large, difficult to edit, and hard to share or update in a team.

Pseudocode solves this by expressing the same logic as readable . It is easier to modify, compare, and convert into actual code later.

2. Basic iteration structure

Basic iteration means repeatedly performing a set of steps until a condition becomes false.

The general structure is:

Start

```
Initialise variables
while (condition is true) {
    Do the repeated work
}
Do any final work
```

End

The while statement checks a condition before each repetition:

- If the condition is true, the block inside { } runs.
- If it is false, the loop stops.
- The block of statements between { and } is called the **block of code**.

3. Example: Counting cards

Suppose we have a pile of cards and want to count how many cards there are.

Start

```
count = 0
while (Pile1 has more cards) {
    Pick a card X from Pile1
    Move X to Pile2
    count = count + 1
}
```

End

Explanation

Step	Meaning
count = 0	Initially, no cards have been counted
while (Pile1 has more cards)	Continue while unseen cards remain
Pick a card X	Take one card from the unseen pile
Move X to Pile2	Mark it as seen
count = count + 1	Increase the count by 1

The statement `count = count + 1` does **not** mean that count equals itself plus one. It means: take the current value of count, add 1, and store the result back in count.