## Iteration

* Iteration uses **repetition structure**.
* An **infinite loop** occurs with iteration if the **loop condition test never becomes false** and Infinite looping uses **CPU cycles repeatedly**.
* An iteration **terminates**when the **loop condition fails**.
* An iteration does not use the **stack**so it's **faster than recursion**.
* Iteration consumes **less memory.**
* Iteration makes the **code longer**.
* Relatively lower time complexity (generally polynomial-logarithmic).
* Used when time complexity needs to be balanced against an expanded code size.

## Recursion

* Recursion uses **selection structure**.
* **Infinite recursion**occurs if the **recursion step does not reduce the problem in a manner that converges on some condition** (**base case**) and Infinite recursion can **crash the system.**
* Recursion **terminates** when a **base case** is recognized.
* Recursion is usually **slower than iteration** **due to the overhead of maintaining the stack.**
* Recursion uses **more memory than iteration**.
* Recursion makes the **code smaller**.
* Very high (generally exponential) time complexity.
* Used when code size needs to be small, and time complexity is not an issue.