**Recursive function V/S Iterative function**

A program is called recursive when an entity calls itself.

A program is call iterative when there is a loop (or repetition).

## 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. (একটি বেস কেস স্বীকৃত হলে পুনরাবৃত্তি বন্ধ হয়ে যায়।)
* 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**.

**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**.