LESSON 43 NOTES

Recursion: ***Programming technique in which a method calls itself***

Base Case: ***Condition that signifies when recursion ends.***

Recursive Case: ***Condition that signifies that the method will be called again.***

Recursive Definition of a List (Example 1)

- ***A List consists of: <number> → BASE CASE***
  OR
- ***<number> "," List → RECURSIVE CASE***

- ***ILLUSTRATION ("( )" represent the List portion) :***
  - ***2, (3,7,14)***
    3, (7,14)
    7, (14)

Infinite Recursion

- ***Like an infinite loop – recursion continues indefinitely***
- ***Is caused by no base case***

Direct Recursion: ***When a method invokes itself within itself.***

Indirect Recursion: ***When a method calls another method that invokes the original method.***

- ***MAY BE SEVERAL LEVELS DEEP***

Diagram of the Recursive `sum()` Method

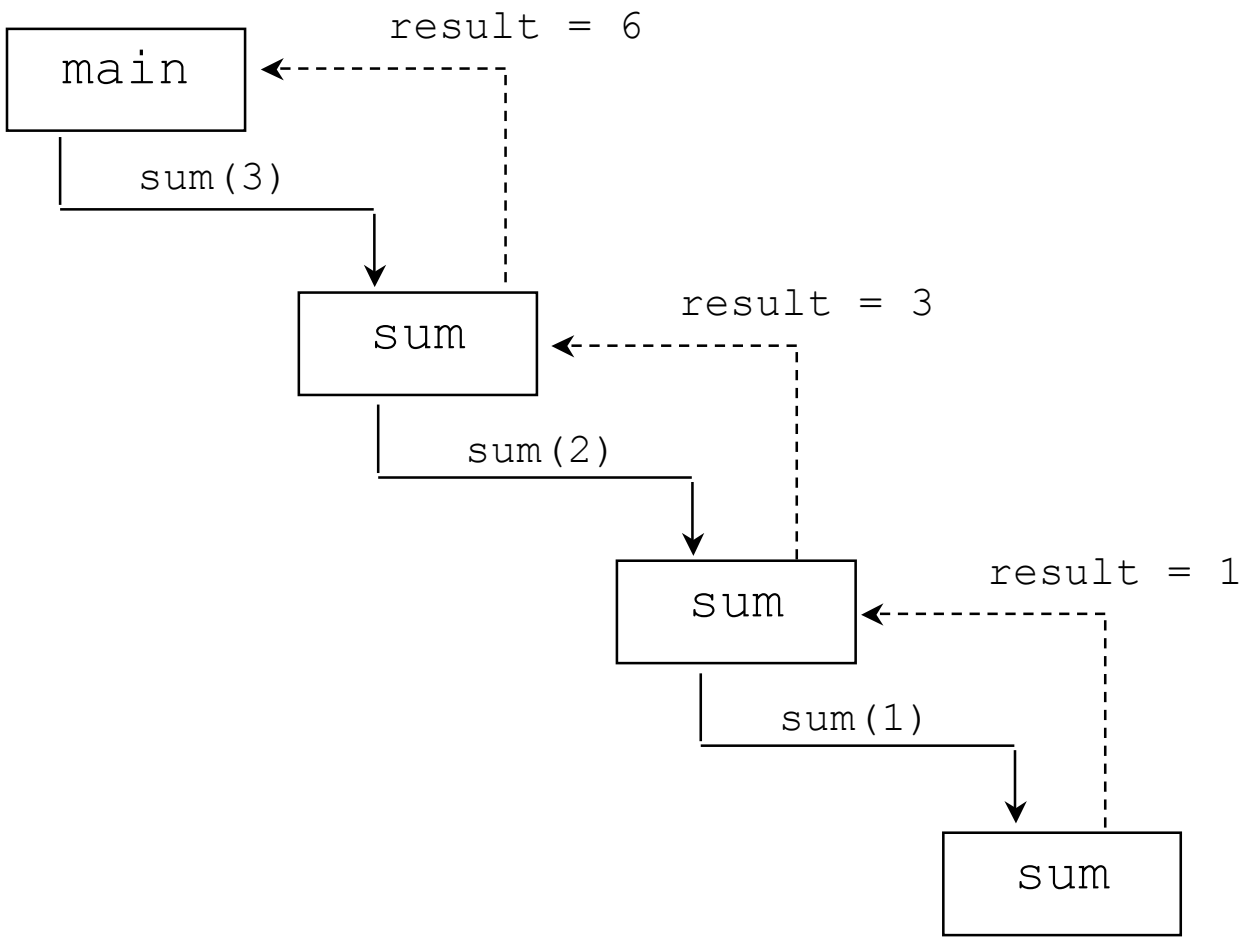

Diagram of Indirect Recursion