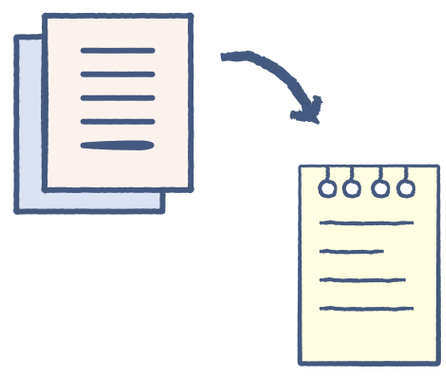
Advantages of Recursion#

Recursion has the following advantages:

Shorter code length#

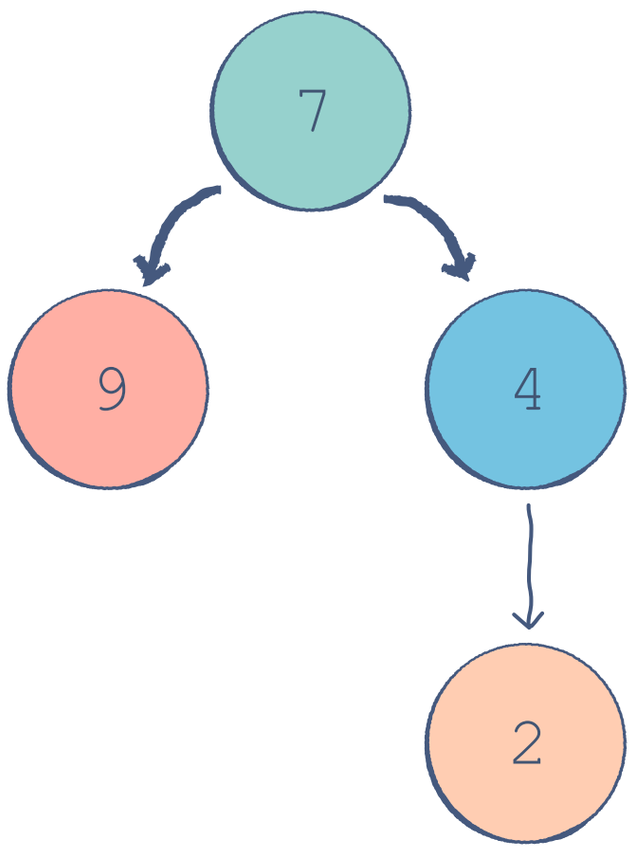
For a recursive method, you only need to define the base case and recursive case, so the code is simpler and shorter than an iterative code.



Recursion decreases the size of the code

Inherently recursive problems#

Some problems are inherently recursive, such as the Traversal of Graphs and Trees.



Tree Traversal problems generally requires recursive solutions

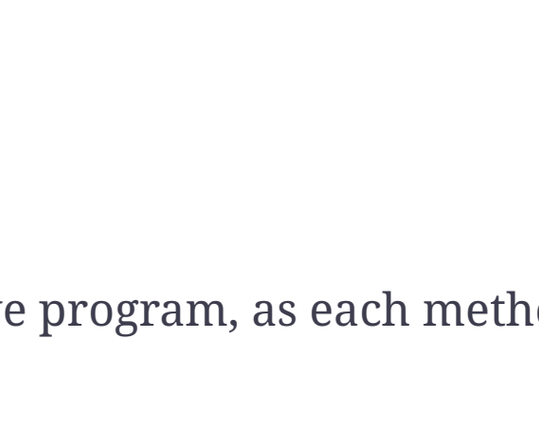
Disadvantages of Recursion#

Large space requirements#

A recursive program has **greater space requirements** than an iterative program, as each method call will remain in the stack until the base case is reached.

Greater Time requirements#

A also has **greater time requirements**, i.e., the run-time increases because each time the method is called, the stack grows and the final answer is returned when the stack is popped completely.



A recursive program also has **greater time requirements**. For example, the run-time increases because each time the method is called, and the stack grows and the final answer is returned when the stack is popped completely.

Now that we are done with the basics of recursion, let’s move on to the next chapter: Iteration to Recursion!