Diagram

Description automatically generated

Ref : <https://www.baeldung.com/java-stack-heap>

When we declare

1. Variables
2. Objects
3. New method
4. String declaration

Then JVM designates memory to these operations from stack memory or heap memory.

Stack Memory:

* Static memory allocation is used for static memory allocation and execution of threads.
* Contains primitive values that are specific to a method and reference to object referred from the method that is in the heap.

Features of Stack

* Access is like a LIFO order.
* Once method execution is completed, the stack frame is flushed.
* It grows and shrinks as new methods are called and returned.
* Variable inside the stack exists only as long as the method that created them is running.
* Its automatically allocated and deallocated when the method finishes execution
* When memory is full, java throws StackOverflowError
* Access to the memory is fast when compared to heap memory
* Memory is thread-safe. Each thread operates in its own stack.