Thread Life Cycle - 2024

**NEW 🡺RUNNABLE 🡺Running 🡺 Blocked 🡺Waiting 🡺 Timed Waiting 🡺 Terminated**

* **NEW - New (born) state:** Creating a new thread using the Thread class constructor
* **RUNNABLE State:**After calling the start() method on a thread, it enters the runnable state.
* **Running:** When a thread executes its code inside the run() method.
* **BLOCKED:** When a thread tries to access a synchronized block or method, but another thread already holds the lock.
* **WAITING:**Using the wait method inside a synchronized block, a thread can wait until another thread calls the notify() or notifyAll() methods to wake it up.
* **TIMED\_WAITING:**Using methods like sleep(milliseconds) or join(milliseconds) causes a thread to enter the timed waiting state for the specified duration.
* **TERMINATED:** When the run() method finishes its execution or when the interrupt() method is called on the Thread.

**Thread Lifecycle**

A thread can be in one of the following states. Use Thread.getState() to get the current state of the thread.

1. NEW: created but has not started execution
2. RUNNABLE: started execution
3. BLOCKED: waiting to acquire a lock
4. WAITING: waiting for some other thread to perform a task
5. TIMED\_WAITING: waiting for a specified time period
6. TERMINATED: completed execution or aborted