***SystemCalls:***

public class ThreadLifecycleExample {

public static void main(String[] args) {

ThreadLifecycleExample example = new ThreadLifecycleExample();

Thread thread = new Thread(example.new MyRunnable());

System.out.println("Thread state after creation: " + thread.getState());

thread.start();

System.out.println("Thread state after start(): " + thread.getState());

try {

Thread.sleep(1000); // Main thread sleeps for 1 second

} catch (InterruptedException e) {

e.printStackTrace();

}

// Note: The effect of yield() is not directly observable through the state

Thread.yield();

System.out.println("Attempted yield() from main thread");

try {

thread.join(); // Wait for the thread to finish

System.out.println("Thread state after join(): " + thread.getState());

} catch (InterruptedException e) {

e.printStackTrace();

}

}

class MyRunnable implements Runnable {

@Override

public void run() {

System.out.println("Thread state inside run(): " + Thread.currentThread().getState());

try {

Thread.sleep(2000); // Thread sleeps for 2 seconds

System.out.println("Thread state after sleep() in run(): " + Thread.currentThread().getState());

} catch (InterruptedException e) {

System.out.println("Thread interrupted during sleep.");

}

// Demonstrate yield in the thread's run method

Thread.yield();

System.out.println("Yield in run() method.");

System.out.println("Thread state after yield() in run(): " + Thread.currentThread().getState());

System.out.println("Thread exiting run() method.");

}

}

}