**Lab Project about Semaphores**

Let's imagine a bridge built over a river, but only allowing vehicle passage in one direction at any given time (that is, two vehicles cannot pass each other side by side across the bridge at the same time). The length of the bridge is 5 vehicles long.

Write a program in Java, using the semaphore structure, that will ensure that oncoming vehicles pass over the bridge regularly, without causing a deadlock on the bridge.

To solve this problem you should develop;

* a **Semaphore** class,
* a **Bridge** class that will allow the passage of vehicles coming from both directions of the bridge
* and finally, a **BridgeSimulation** class, where you will test the accuracy of the **Bridge** class you wrote and perform a simple simulation.