Consider the implementation of a **Switch** below. The switch has one function named *click(),* which turns on the state of the switch if the switch is off and it turns off the state of the switch if it is on.

public class Switch {

private boolean state;

Switch(){

state = false;

}

public void click() {

state = !state;

System.out.println("I am " + (state ? "on": "off"));

}

public boolean getState() {

return state;

}

}

Implement a class named **Person,** which calls the function *click()* five times. Your implementation should be such that each object of the class Person should run in its own thread. Use **block synchronization** to synchronize the access of the shared resource switch.

You must run and provide output on the following program (without any changes to the program). You are not allowed to make any changes to this program.

public class Main {

public static void main(String[] args) throws Exception{

Switch s = new Switch();

Person person1 = new Person(s);

Person person2 = new Person(s);

person1.getThread().join();

person2.getThread().join();

}

}

**Expected Output:**

I am on

I am off

I am on

I am off

I am on

I am off

I am on

I am off

I am on

I am off