/\*

The solution to this task can be very small and compressed but we would like you

to create separate classes when you think it is fitted. Think of it as your code

will be reused later for creating a bigger and more complex system. When you

create your code think of single responsibility principle and separation of concern.

You should also create unit tests for this task when you think it is fitted.

100 doors in a row are all initially closed. You make 100 passes by the doors.

The first time through, you visit every door and toggle the door (if the door

is closed, you open it; if it is open, you close it). The second time you

only visit every 2nd door (door #2, #4, #6, ...). The third time, every 3rd door

(door #3, #6, #9, ...), etc, until you only visit the 100th door.

Question: What state are the doors in after the last pass? Which are open, which are closed?

Deliverable: the code written by the developer and the developer needs to present this

\*/

**Detail view of Solution:**

**Class:** DoorAssignment

**Interface:** AssignmentInterface

**Pattern**: Factory Pattern used

**Output:**

Door 1 is open

Door 2 is close

Door 3 is close

Door 4 is open

Door 5 is close

Door 6 is close

Door 7 is close

Door 8 is close

Door 9 is open

Door 10 is close

Door 11 is close

Door 12 is close

Door 13 is close

Door 14 is close

Door 15 is close

Door 16 is open

Door 17 is close

Door 18 is close

Door 19 is close

Door 20 is close

Door 21 is close

Door 22 is close

Door 23 is close

Door 24 is close

Door 25 is open

Door 26 is close

Door 27 is close

Door 28 is close

Door 29 is close

Door 30 is close

Door 31 is close

Door 32 is close

Door 33 is close

Door 34 is close

Door 35 is close

Door 36 is open

Door 37 is close

Door 38 is close

Door 39 is close

Door 40 is close

Door 41 is close

Door 42 is close

Door 43 is close

Door 44 is close

Door 45 is close

Door 46 is close

Door 47 is close

Door 48 is close

Door 49 is open

Door 50 is close

Door 51 is close

Door 52 is close

Door 53 is close

Door 54 is close

Door 55 is close

Door 56 is close

Door 57 is close

Door 58 is close

Door 59 is close

Door 60 is close

Door 61 is close

Door 62 is close

Door 63 is close

Door 64 is open

Door 65 is close

Door 66 is close

Door 67 is close

Door 68 is close

Door 69 is close

Door 70 is close

Door 71 is close

Door 72 is close

Door 73 is close

Door 74 is close

Door 75 is close

Door 76 is close

Door 77 is close

Door 78 is close

Door 79 is close

Door 80 is close

Door 81 is open

Door 82 is close

Door 83 is close

Door 84 is close

Door 85 is close

Door 86 is close

Door 87 is close

Door 88 is close

Door 89 is close

Door 90 is close

Door 91 is close

Door 92 is close

Door 93 is close

Door 94 is close

Door 95 is close

Door 96 is close

Door 97 is close

Door 98 is close

Door 99 is close

Door 100 is open

GitHub link for access code:

<https://github.com/Santosh1004/DoorAssignmentFactoryPattern.git>