

OUR EXPECTATIONS:

1. We expect you to come up with a **simple console application** in the **language of your choice**. There is no need for a UI, or a web application.
 2. With this exercise we are expecting to see how you write production ready code by focusing on:
 - Simple and modular design.**
 - Clean code practices using OO / functional programming
 - Unit test** case coverage.
 - Handling boundary conditions
 - Code styles etc.
 3. Please stay **within the boundaries** defined in the problem. Avoid over-thinking and over-engineering. Clearly state your assumptions wherever needed in the code or in the README file.
 4. Submit your solution in a **public GitHub / Bitbucket repo**.
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OTHER EXPECTATIONS (nice to have):

1. Please mention the **setup instructions** and **how to run the program** in the README file.
 2. Divide the problem statement in smaller tasks / features and have small and atomic commits in your repo.
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PROBLEM STATEMENT - SNAKES & LADDERS:

You are required to create a program, which simulates the playing of a **Snakes & Ladders game**.

Board: There are 100 cells on a Snakes & Ladders board from 01, 02... all the way to 100. However, your starting position is **00**, which is **outside the board**.

Assumptions:

- Assume that the game has **4 snakes** and **4 ladders** of varying lengths dispersed on the board.
- You can choose to initialize / define **where** these snakes and ladders will be on the board and how **long** each of them are. For e.g, a ladder could be at cell 07 and it could take you ahead to 33. Or a snake could be at 87 and bring you back to 32. It's your choice.

Sample ladder position:

| Ladder foot | Ladder top |
|-------------|------------|
| 07 | 33 |
| 37 | 85 |
| 51 | 72 |

Sample snake position:

| Snake head | Snake tail |
|------------|------------|
| 36 | 19 |
| 65 | 35 |
| 87 | 32 |

Inputs and Outputs for your program:

The **input** to your program will be **any number between 1 to 6** (...the numbers on a dice...), and your **current position** on the board

The **output** of your program will be your **new position** on the board.

End of game: The game ends as soon as you reach exactly 100. **However, if the output comes out to be more than 100, then the piece will remain in the current position.** See examples below.

Examples:

| Input - Current position, Dice outcome | Output - New position |
|--|--|
| 04, 5 | New position: 9 |
| 34, 3 | 85 (assuming that there is a ladder from 37 to 85) |
| 83, 4 | 32 (assuming that there is a snake from 87 to 32) |
| 96, 5 | 96 (since $96+5$ is more than 100) |
| 99, 1 | Yay!! You won!! (and exit the program) |

Sample board illustration:

| | | | | | | | | | |
|-----|----|----|----|----|----|----|----|----|----|
| 100 | 99 | 98 | 97 | 96 | 95 | 94 | 93 | 92 | 91 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 80 | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 60 | 59 | 58 | 57 | 56 | 55 | 54 | 53 | 52 | 51 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 40 | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 | 31 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 |

START 00