

## Android Task: Board Game

Duration: 2-3 Hours

This task is divided into two parts, 1st creating the board and 2nd Moving the token.

### Creating a board:

1. Create a board with  $n*n$  boxes.
2. First box being the start and last box being the end.
3. Fill the boxes with values 0 being default & assign some values b/w (-5 to +5) to some random boxes.
4. The ratio of boxes with random values to the boxes with default value should be at least 1:4

### Moving a token:

1. Create a button to generate a random dice value between 1 to 6.
2. Move the token with the generated random value.  
Eg randomValue = 3, currentPosition = 7 after token is moved, currentPosition = 7 + 3.
3. Move forward and backward according to the value of the box the token lands-on/ finishes. Eg
  - Token finishes on 10, value of box 0 ---> final position 10
  - Token finishes on 10, value of box 4 ---> 10 + 4, value of box 0 ---> final position 14
  - Token finishes on 10, value of box 4 ---> 10 + 4, value of box = -2 ---> 14 - 2, value of box = 0 ---> final position 12.

0	0	-1	-3	0	0	4	0	64
0	-1	0	0	0	0	0	2	56
0	0	0	0	2	0	0	0	48
0	0	0	0	0	0	0	0	40
-2	0	1	0	0	0	5	0	32
0	0	0	5	0	0	0	0	24
0	-4	0	0	3	4	0	3	16
0	-2	0	0	3	0	0	0	8
1	2	3	4	5	6	7	8	

Sample Board (8x8)

Edge cases: Handle all the edge cases that may occur.

1. First and last box values should be equal to 0.
2. Arrange the board values such that the moving token is not stuck in an infinite loop.
  - Token finishes on 10, value of box = - 4 ---> 10 - 4, value of box = 4 ---> 6 + 4, value of box = -4 ----> and so on.

Note: Write clean and reusable code. Submit the code and application in a zipped file.