Instructions

- The homework is due at **11:59 PM, Oct. 18th** on Gradescope. ***No late submission will be accepted.***

- All algorithms/proofs should be in bullet form: step by step. If handwritten, then the submission should be visually clear enough for us to understand.

- You must write your discussion section (number, time, and TA's first name) in the upper right-hand corner of your homework, And your name in the upper-left corner.

Questions

1. Exercise 3 Page 107

2. Exercise 4 on Page 107

3. Exercise 9 on page 110

4. Exercise 11 on page 111

5. Exercise 12 on page 112

6. Given an array **arr[]** of size **N**, the task is to find the minimum number of jumps to reach the last index of the array starting from index 0. In one jump you can move from current index **i** to index **j**, if **arr[i] = arr[j]** and **i != j** or you can jump to **(i + 1) or (i – 1)**.
Note: You can not jump outside of the array at any time.
Example:

Input: *arr = {100, -23, -23, 404, 100, 23, 23, 23, 3, 404}*
Output: *3*
Explanation: *Valid jump indices are 0 -> 4 -> 3 -> 9.*