Homework 2

OPTIONAL PROBLEMS
(No due date)

1   Written Problems

Stacks

Implement a stack with three pieces of functionality: `push()` in constant time, `pop()` in constant time and `get_min()` that returns the value of the minimum element in the stack but does not alter the stack, also in constant time.

Solution:

Maintain a separate stack that has all the minimums in it. For `pop()`, check if the top of the minimum stack is the same as the main stack. If it is, pop both stacks. For `push()`, check if the element you're adding is equal to or less than the top of the minimum stack. If it is, push it onto the minimum stack. Either way, push it onto the general stack. For `get_min()`, just look at the top element of the minimum stack.