**CPT\_S 580 HW3**

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1. Since the happening of the mistake is depends on the if there is a mistake on the previous decision step. We can conduct the following:

At step 1 there are epsilon \* T mistakes

Step2 there are epsilon \* (T-1) mistakes

…

StepsT there are epsilon \* 1 mistakes

In total, there are epsilon \* (T + (T-1) + (T-2) + .. + 1) mistakes

Therefore the total number of mistakes grows quadratically O(epsilon \* T2)