CS 6820

HW 2

Question 4

We will solve this using dynamic programming.

We defined to mean the amount of garbage that piled up in town from days to , inclusive.

We define to mean the previous time before day that the garbage got disposed in town .

We define to mean true or false, whether there exists an admissible garbage disposable schedule from day to (inclusive) in which the garbage is disposed on day in town .

Before we mathematically define the recurrence scheme, we should explain it in plain English. The recurrence scheme should be true if and only if

* the garbage piled up in town after the previous disposal and up until YESTERDAY (day ) is below

AND

* the garbage piled up in all the other towns after their previous disposal up until TODAY (day ) is below

AND

* every single town had an admissible schedule up until the days their garbage previously got disposed

We now put this mathematically: