Design Analysis and Algorithms cost of resisting after k inschiory to our Homework-IF. When we insert in the ment. total cost const Aggregate Method (100 signize of ded 10 insertion and cost each resisting operation the aggregate method calculate the total cost of operations and divides by the number of operations to find the average cost per operation · Suppose we have algorianic array that start with a capacity of 1. . Each time we insert an element and array to tull, array Size doubles requiring copying all elements to the new away. To analyze the cost Single insections; Insecting an element costs OCI) unles resizing & required , Resizing: Each time resizing happens - all elements need to be copied to the new away, so

Design shootysis and eligorithmy cost of resizing after k insultions a ock) When we invest n elements, total cost consists or both the simple och cost for each insection and costs each resizing operation the aggregate method calculator the total cost of The total cost of insecting in elements of to find the average cost per operation of the total hour I sind of the started with a capacity of 1. 0=1 Thus, amortized cost per muertion es oci) to tull , array Size doubles requiring conjung all element to the men anay. To analyze the cost Single insections: Insecting an element cost oci) I Cember restained & required. Perizing: Each time resising hippens - all element meed to be copied to the men anay, so

b) Mounting Method 1 " sprods later Total condition -- + ms. + row - Dibago total The accounting method is used to analyze the amortized cost of asequence of operations by changing some operations more than their actual cost and Saving the encey as credits. Pseudocode in Horming somil aug from (a) to not loto it table es full new table = Create new table with size 2 current size then copy elements from old table to new table table = New table insert element i into table initate charge = 0 for i to = 1 to n charges += 2 if table double in size from mtozm credity += m

Total charge = 2*n = 0(m) Total credit = m+2m+---+ m/2 m = O(n) in the accounting method is used to analyze the Amortized cost per insertion = Total by 101 (m/m) = allow more than a their a real cost So (130 = ppe excell at weight a Run times per investion = O(1) Total time = O(n) Ind a aldot +1 mew totale a Checke meur to bl them cord element from oil table table : dew table meet element i into tonle fortale charge = 0 CO11: 601 1:00 Charges 4 2 2