Name: Imadh Ajay Banday UTA-ID: 100 2228309 Handy - On-11 or Gruen a dynamic table that doubles in size whe it needs more space. Find the amortized runtine free inserting in elements a) the the aggregate method to billowing 3) use the amounting meltinod' : front of justice of A pl (3 lot) 1) By Aggregate Method:

a) For the amortized runtime analysis of runjesting in claments with with a sea dynamic array that district on Size. 1) Investion west: Each insertion typically cools o(1)

When the array in full, resizing occurs, conting

O(n) to copy tenisting elements when it is In the form of geometric series Und porth - jupich the outer E. there T(n) = 0 (n) + 0 (n) = 0(n)

Monte I made Ajay Donnit smoth for8 see ool : OT-ATU 11-00, 100011 Amorlije costs pered intruition istrange of issert is similar to the stand of the second of the seco The Americal cost personnertion fines of Amorligied contraction (n) = O(n) en zo(1). b) by Accounting Hethrod: healter stages of a cold The amortized runting of meeting in elements with the anombig method 1) Cost setup: they restrant " in Assign an amortized cont of 3 units of each meeting (100 place) who is resistant has in and stones & unity as (bodit' for future) besigning. a) but breakdown: view instances to ment up nt hegular Invertion: Total wind, leaving a with in Overlit. I westign with Resigns - Marray doubles in size, we have enough some vedit to cover in size; me have T(N) = D(N) + D(N) = D(N))

- Carrie 3. Amostized Cost per Investion: content time cost on overage, even with oversional resigning.