Abhiram G LAB-4 7/10/20 1BMISCS127 Procedure: +> Initialise no. of islands = 0 -> Traverse 20 Mmtix -> If ralve 1 , check its neighbors, if neighbour 1 take union -> nefine away of size row x column -> Traverse matrix -> if value = 1, find its set -) If freq of set of increment result to 1. int noof Islands (voctor = vector = < int ssa) { int n -> a.size(); int m-s a (o). size(): Disjoint Union Sets + dus = new Disjoint Union Sets (n+m) for (int j -> 0; jzn : j++) { for (intk-so; pem; ktt) if (a GiJ [k] = = 0) continue if j+1 < n Rl acj+1](k]==1 dus -> Union (j * (m) + k, (j+1) * (m) + k); if j-1 >= 0 28 O[j-17 [k] == 1 dus -> Union (j + (m) + k . (j. 1) * (m) +k). if R+1 < m 28 ali][x+1]---1 dus - . Union (in (m) + h, (j) a m + h+ 1) if R-1 >=0 == a[j7[k-1]:=1 dus -> Union (j + (m) + k, (j) * (m) + h-1); if itlands ktlam ee a ()+1) (+1)==() dus -> union (jr (m) + h) (j+1) + (m) +k+1)

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if (i+1 < n = 2 k - 15=0 22 alj+1] (b-1] == 1 dus -> Union (j+m+L, (j+1)+ (m)+k-1). if j-13=0 x8 k+1 < m & = a [j-1][k+1] == 1 dus -> Union (j+ m+h, (j-1) * m+k+1); if j-1 >= 0 28 k-1 >= 0 = 0 a (1-1) (k-1) == 1 dus -> union (jam+k, (j-1) + m+ k-1); int +c = new int [n+m]: int number Irlands = 0: for (intj-> 0 : j < n ; j++) for (inkk > 0; kzm; k++) if a fill (k) = = 1 int x = dus > find (j*m + k); if EC[x] == 0 number of islands++; (Cx) ++; 0150 ((x)++; return number of Islands;