```
int * = new int [n*m]:
 int number of Islands = 0;
for (intj = 0; j < n; j++)
        int x = dw -> find ( * m + w);
        if (((1) == .0)
          number of Islands ++
          ([x]++;
      clee
     ((2) ++;
  return number of Islands;
   Re Moduli .
REDMI NOTE 5 PRO
```

```
Rashmi Dhadet
                                    1BM18cs080
Find the number of islands.
   Algorithm
   int countIslands (vector < rector < ints >a)
     int n = a.size ();
     int m = a [o] . size ();
   Disjoint Union Sets * dus = new newdisjoint Set (n*m);
       for (intj=0; 1<n; j++)
       for (int k=0; k<m; k++)
          if (a[i][u) = =0)
            continue;
       if (i +1<n fe a[i+i][1] ==1)
       dus → voion (jx (m)+1e, (j+1) x (m)+k);
if (k+1 < m f f a[j] [k+1] ==1)
           dus → union (j* (m) + k, (j) * (m) + k+1);
       : f (j-1) = 0 } f a[;-1][[]==1)
          duy - union (j* (m) + k, (j-1) * (m)+ k);
      if (K-1 >=0 & a [j][12-1] ==1)
           du -> union (; * (m)+ k, (; ) + (m) + k-1);
       if (;+1 < 0 $4 K+1 < m & & a [;+][k+i] ==1]
      duy -> union (j* (m)+k, (j+1)* (m)+k+1);
        (1+1 < 0 ff K-1>=0 ff a[;+1)[K-1]==1)
         dus -> union (j*m+k, (j+1)*(m)+k-1);
     of (1-1>=0 & & K+1 < m & a [1-1][k+1]==1)
         dus - union (j km+k, (j-1) km+ k+1);
      if Ci-1>=044 1-1>=068 a[1-1][k-1]==1
       dus - union (; * m+k, (;-1) * m+k-1);
REDMI NOTE 5 PRO
```