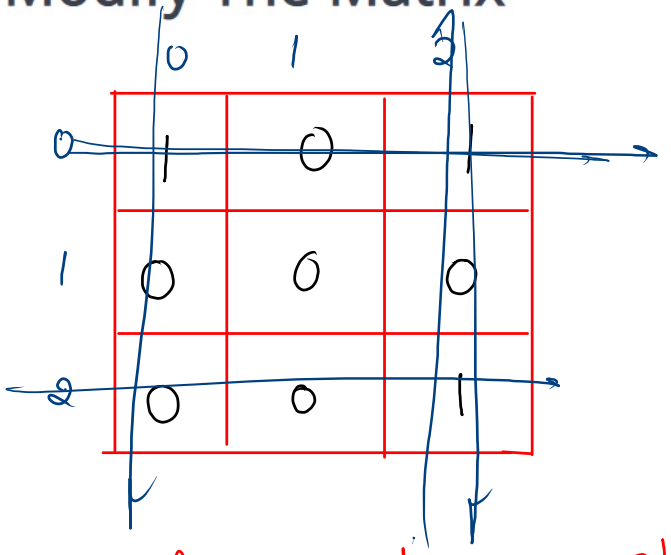
Modify The Matrix



⇒

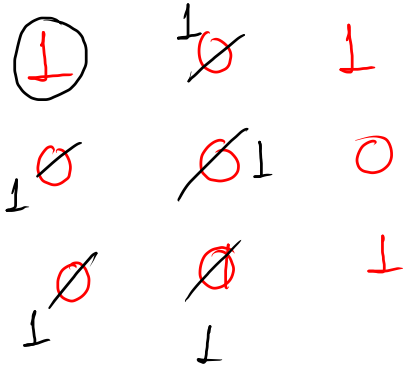
1 1 1
1 0 1
1 1 1

Brute force :- when encounter '1' convert all rows and col. into '1'.

Can we do it like this?

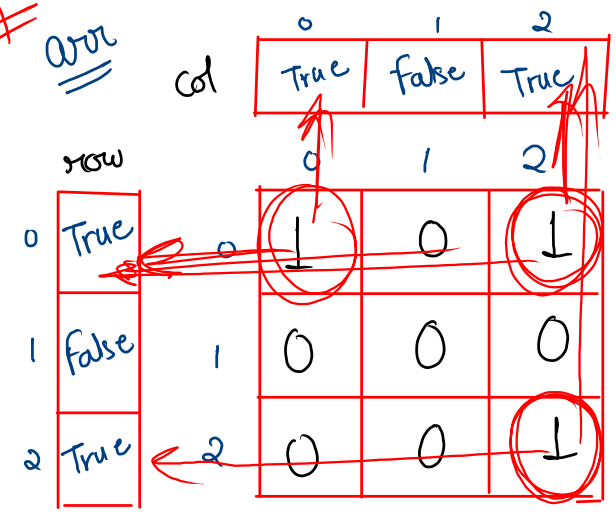
No

Brute force



No

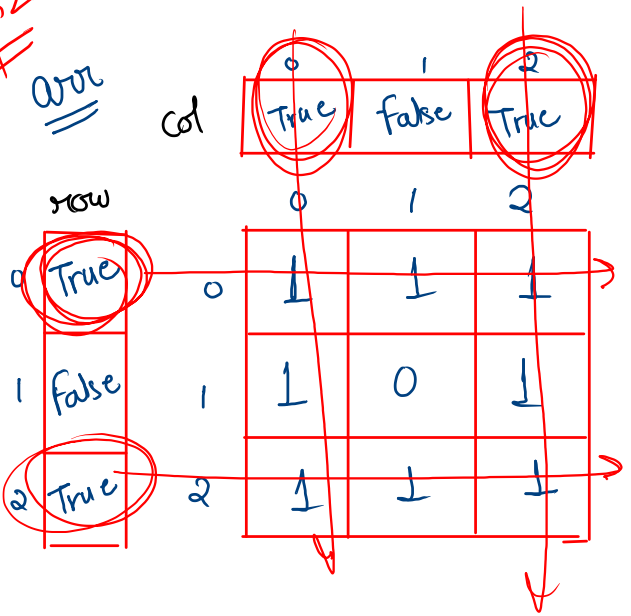
Step1



filling up row array and col. array

creating row array and col. array containing true or false Indicating if the row or col. does contains a '1' or not

Step2



modify original array according to row array and col. array

main function

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int m = scn.nextInt(); // row
    int n = scn.nextInt(); // col
    int[][] arr = new int[m][n];
    for (int i = 0; i < m; i++) {
        for (int j = 0; j < n; j++) {
            arr[i][j] = scn.nextInt();
        }
    }

    setOnes(arr, m, n);

    for (int i = 0; i < m; i++) {
        for (int j = 0; j < n; j++) {
            System.out.print(arr[i][j] + " ");
        }
        System.out.println();
    }
}
```

main logic

```java
public static void setOnes(int[][] arr, int m, int n) {
    // step 1
    boolean[] row = new boolean[m];
    boolean[] col = new boolean[n];

    for (int i = 0; i < m; i++) {
        for (int j = 0; j < n; j++) {
            if ( arr[i][j] == 1 ) {
                row[i] = true;
                col[j] = true;
            }
        }
    }

    // step 2
    for (int i = 0; i < m; i++) {
        for (int j = 0; j < n; j++) {
            if ( row[i] == true ) {
                arr[i][j] = 1;
            }
            if ( col[j] == true ) {
                arr[i][j] = 1;
            }
        }
    }
}
```

default is false

⇒ String

String str = "abcd";
(0 1 2 3)

⇒ str.length() ⇒ 4

⇒ str.charAt(i)

⇒ str.substring( );

Find Unique

T.C1 "100245"

1, 0, 2, 4, 5

(5)

T.C2 "000022"

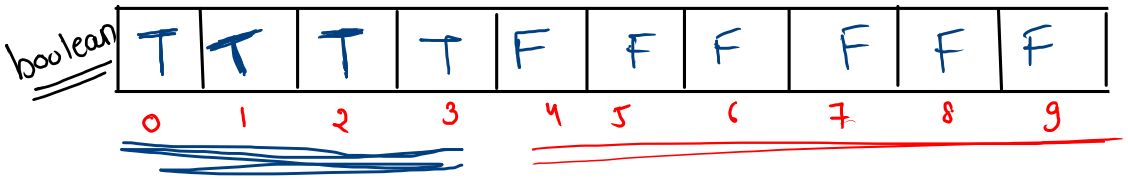
0

2

(2)

T.C3 "02002000"

array as hashmap



data type :-

String = " 12022O123 "

ch = '3'

idx = '3' - '0' = 3

ch = str.charAt(i)

idx = ch - '0'

assuming

'0' → 48
'1' → 49
'2' → 50
'3' → 51
'4' → 52
'5' → 53
'6' → 54
'7' → 55
'8' → 56
'9' → 57

code

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    String str = scn.nextLine();

    // building array as hashmap
    boolean[] check = new boolean[10];
    for (int i = 0; i < str.length(); i++) {
        char ch = str.charAt(i);
        int idx = ch - '0';
        check[idx] = true;
    }

    // count trues in check array
    int count = 0;
    for (int i = 0; i < 10; i++) {
        if (check[i] == true) {
            count++;
        }
    }

    System.out.println(count);
}
```

n = size of string

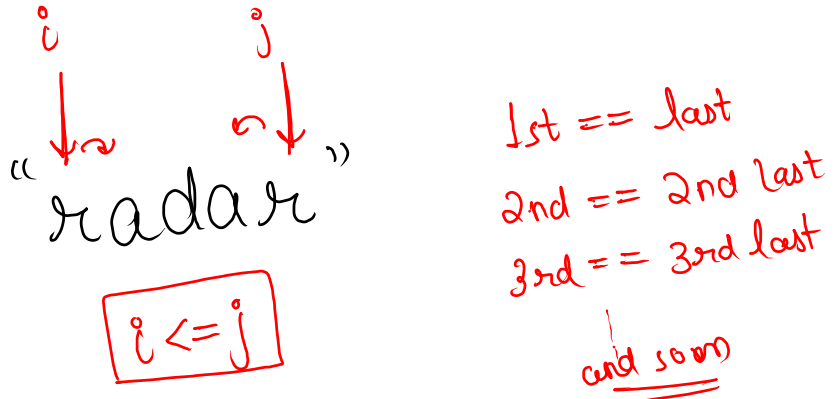
10

T.C = O(n+10)

≃ O(n)

Is Palindrome

↳ Palindrome :- which is same when read from start and when read from end



1st == last
2nd == 2nd last
3rd == 3rd last
and soon

T.C

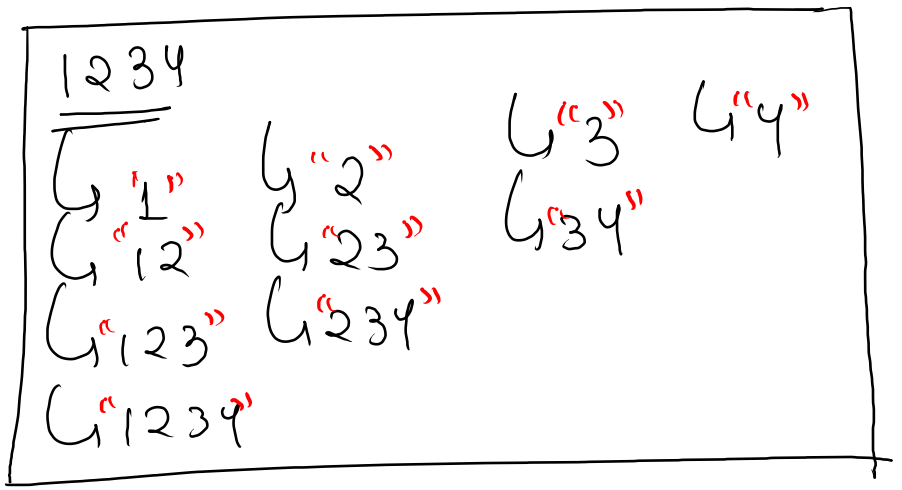
T.C = redar

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    String str = scn.nextLine();

    int i = 0;
    int j = str.length() - 1;

    while ( i <= j ) {
        if ( str.charAt(i) != str.charAt(j) ) {
            System.out.println("Not a Palindrome");
            return;
        }
        i++;
        j--;
    }
    System.out.println("Palindrome");
    return;
}
```

Sum of All Substrings

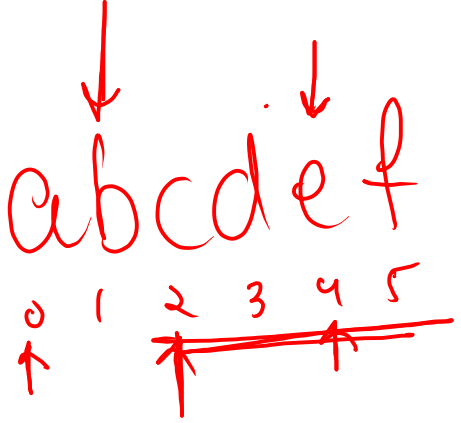


abcd

- a
  - ab
    - abc
      - abcd
  - b
    - bc
      - bcd
  - c
    - cd
  - d

```
for( int i=0; i<str.length(); i++) {
    for( int j=i; j<str.length(); j++) {

    }
}
```



str.substring(si, ei+1);

To convert string into integer

Integer.valueOf(string);

str.substring(1,4) ⇒ bcd

" " (0,4) ⇒ abcd

" " (0,5) ⇒ abcde

" " (2) ⇒ cdef

" " (1) ⇒ bcdef

Find Distance B/W Two Characters

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    String str = scn.nextLine();
    char c1 = scn.next().charAt(0);
    char c2 = scn.next().charAt(0);

    int ans = Integer.MAX_VALUE;
    for (int i = 0; i < str.length(); i++) {
        if ( c1 == str.charAt(i) ) {
            for (int j = i; j < str.length(); j++) {
                if ( c2 == str.charAt(j) ) {
                    ans = Math.min( ans, j - i - 1 );
                }
            }
        }
    }

    System.out.println(ans);
}
```

j = 4
i = 0
4-0-1

T.C = O(n²)

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    String str = scn.nextLine();

    int sum = 0;
    for(int i = 0; i < str.length(); i++) {
        for (int j = i; j < str.length(); j++) {
            sum += Integer.valueOf( str.substring(i, j + 1) ) ;
        }
    }

    System.out.println(sum);
}
```