CS-594: Lab Exam - 2
Instructors: Dr. Sanasam Ranbir Singh and Prof. S.V. Rao
(Duration: 3hrs)

---

1. Given an array of integers "nums" and an integer 'k'. Find the total number of **nice** subarrays.
(A continuous subarray is called **nice** if there are k odd numbers on it). **[1 Mark]**

```
Input:
nums=[1,1,2,1,1]
k=3

Output: 2
(Since there are only 2 subarrays which have 3 odd values [1,1,2,1]
and [1,2,1,1]).
```

---

2. Given a 2D matrix, print all elements of the given matrix in a diagonal order. For example, consider the following 5 X 4 input matrix. **[2 Marks]**

```
Input:
1       2       3       4
5       6       7       8
9      10      11      12
13      14      15      16
17      18      19      20

Output:
1
5 2
9 6 3
13 10 7 4
17 14 11 8
18 15 12
19 16
20
```