1. Print the given matrix in spiral form

1 2 3 4

5 6 7 8

9 10 11 12

13 14 15 16

Output:

1 2 3 4 8 12 16 15 14 13 9 5 6 7 11 10

Input:

1 2 3 4 5 6

7 8 9 10 11 12

13 14 15 16 17 18

Output:

1 2 3 4 5 6 12 18 17 16 15 14 13 7 8 9 10 11

2.Rotate the matrix by 90 degrees anti clockwise

1 2 3

4 5 6

7 8 9

Output:

3 6 9

2 5 8

1 4 7

Input:

1 2 3 4

5 6 7 8

9 10 11 12

13 14 15 16

Output:

4 8 12 16

3 7 11 15

2 6 10 14

1 5 9 13

3. Given a matrix, clockwise rotate elements in it.

Input

1 2 3

4 5 6

7 8 9

Output:

4 1 2

7 5 3

8 9 6

For 4\*4 matrix

Input:

1 2 3 4

5 6 7 8

9 10 11 12

13 14 15 16

Output:

5 1 2 3

9 10 6 4

13 11 7 8

14 15 16 12

4.Subarray with max sum

Input : a[] = {1, -2, 1, 1, -2, 1}

Output : Length of the subarray is 2

Explanation: Subarray with consecutive elements

and maximum sum will be {1, 1}. So length is 2

Input : a[] = { -2, -3, 4, -1, -2, 1, 5, -3 }

Output : Length of the subarray is 5

Explanation: Subarray with consecutive elements

and maximum sum will be {4, -1, -2, 1, 5}.

5.Find the max possible length palindrome.

Input Ex: abcdmadamisisroddorsisimadamddcba

Output: dmadamisisroddorsisimadamd

6.Find the biggest possible palindrome using the characters of a given set of words. If multiple palindromes of the same size could be formed, then it is enough if one of them is printed.

Input: this is a sample text for testing

Output: Max possible palindrome : 15 characters

Ex: ttissaepeassitt

7. **Replace two consecutive equal values with one greater**

**You are given an array of size ‘n’. You have to replace every pair of consecutive values ‘x’ by a single value ‘x+1’ every time until there is no such repetition left and then print the new array.**

**Input : 5, 2, 1, 1, 2, 2**

**Output : 5 4**

**Explanation:**

**step 1: While traversing, encountered pair of 1(gets replaced by 2. We get 5, 2, 2, 2, 2**

**step 2: The first encountered pair of 2 gets replaced by 3. We get 5, 3, 2, 2**

**step 3: Again pair of 2 gets replaced by 3. We get 5, 3, 3**

**step 4: Recently formed pair of 3 gets replaced by 4. We get 5, 4**

**This is our required answer.**

**Input : 4, 5, 11, 2, 5, 7, 2**

**Output : 4 5 11 2 5 7 2**