

1. Write a program to print below pattern?

```
1
* *
3 3 3
* * * *
5 5 5 5
```

2. Write a program to find duplicate character in string?
3. Write a program to find length of String and Count Number of character?
4. Given an array of numbers arr and a window of size k, print out the median of each window of size k starting from the left and moving right by one position each time.

*For example, given the following array and k = 3:*

*[-1, 5, 13, 8, 2, 3, 3, 1]*

*Your function should print out the following:*

*5 <- median of [-1, 5, 13]*

*8 <- median of [5, 13, 8]*

*8 <- median of [13, 8, 2]*

*3 <- median of [8, 2, 3]*

*3 <- median of [2, 3, 3]*

*3 <- median of [3, 3, 1]*

*Recall that the median of an even-sized list is the average of the two middle numbers.*

5. Given a list of strictly positive integers, partition the list into 3 contiguous partitions which each sum up to the same value. If not possible, return null.

*For example, given the following list:*

*[3, 5, 8, 0, 8]*

*Return the following 3 partitions:*

`[[3, 5],`

`[8, 0],`

`[8]]`

*Which each add up to 8.*

6. Given an array of numbers, find the length of the longest increasing subsequence in the array. The subsequence does not necessarily have to be contiguous.

For example, given the array [0, 8, 4, 12, 2, 10, 6, 14, 1, 9, 5, 13, 3, 11, 7, 15], the longest increasing subsequence has length 6: it is 0, 2, 6, 9, 11, 15.

7. Find out the given input is perfect square or not

*For example : input is 64 , output must be "64 is perfect square of 8 " ,  
input 61 , output must be there " not have perfect square"*