

# **Greedy Solutions**

```
Solution 1:
Time Complexity: o(n)
Space Complexity: o(1)
import java.util.*;
class Solution {
static int BalancedPartition(String str, int n){
        if (n == 0)
                return 0;
        int r = 0, I = 0;
        int ans = 0;
        for(int i = 0; i < n; i++) {
        if (str.charAt(i) == 'R'){
                r++;
       }
       else if (str.charAt(i) == 'L'){
                l++;
       }
       if (r == 1){
                ans++;
       }
        return ans;
}
public static void main(String[] args){
        String str = "LLRRRLLRRL";
        int n = str.length();
        System.out.print(BalancedPartition(str, n) + "\n");
}
}
```



# Solution 2:

```
Time Complexity: o(1)
Space Complexity: o(1)
class Solution {
        public static int kthOdd(int[] range, int K) {
                if (K \le 0)
                        return 0;
                int L = range[0];
                int R = range[1];
                if ((R \& 1) > 0) {
                        int Count = (int) Math.ceil((R - L + 1) / 2);
                        if (K > Count)
                                 return 0;
                        else
                                return (R - 2 * K + 2);
                } else {
                        int Count = (R - L + 1) / 2;
                        if (K > Count)
                                return 0;
                        else
                                return (R - 2 * K + 1);
                }
        }
        public static void main(String args[]){
                int[] p = \{-10, 10\};
                int k = 8;
                System.out.println(kthOdd(p, k));
        }
}
```

# Solution 3:



```
Time Complexity: o(n)
Space Complexity: o(n)
import java.util.Arrays;
public class Main {
        public static char[] lexo_small(int n, int k){
                char arr[] = new char[n];
                Arrays.fill(arr, 'a');
                for (int i = n - 1; i >= 0; i--) {
                         k -= i;
                         if (k >= 0) {
                                 if (k \ge 26) {
                                          arr[i] = 'z';
                                          k -= 26;
                                 }
                                 else {
                                          arr[i] = (char)(k + 97 - 1);
                                          k -= arr[i] - 'a' + 1;
                        }
                         else
                                 break;
                         k += i;
                }
                return arr;
        }
        public static void main(String[] args){
                int n = 5, k = 42;
                char arr[] = lexo_small(n, k);
                System.out.print(new String(arr));
        }
}
```



# Solution 4:

```
Time Complexity: o(n)
Space Complexity: o(1)
class Solution {
static int maxProfit(int prices[], int n)
{
        int buy = prices[0], max_profit = 0;
        for (int i = 1; i < n; i++) {
        if (buy > prices[i])
                buy = prices[i];
        else if (prices[i] - buy > max_profit)
                max_profit = prices[i] - buy;
        return max_profit;
}
public static void main(String args[]){
        int prices [] = \{7, 1, 5, 6, 4\};
        int n = prices.length;
        int max_profit = maxProfit(prices, n);
        System.out.println(max_profit);
}
}
```

# Solution 5:

```
Time Complexity :O((N-1)c(K-1)) (Here 'c' here depicts combinations i.e. ((n-1)!/((n-k)!*(k-1)!) Where N is the number of elements of the array and K is the number of divisions that we are having) Space Complexity: o(n) class Solution { public static int ans = 10000000; public static void solve(int a[], int n, int k,
```

int index, int sum, int maxsum){



```
if (k == 1) {
                       maxsum = Math.max(maxsum, sum);
                       sum = 0;
                       for (int i = index; i < n; i++) {
                               sum += a[i];
                       }
                       maxsum = Math.max(maxsum, sum);
                       ans = Math.min(ans, maxsum);
                       return;
               }
               sum = 0;
               for (int i = index; i < n; i++) {
                       sum += a[i];
                       maxsum = Math.max(maxsum, sum);
                       solve(a, n, k - 1, i + 1, sum, maxsum);
               }
       public static void main(String[] args){
               int arr[] = \{ 1, 2, 3, 4 \};
               int k = 3; // K divisions
               int n = 4; // Size of Array
               solve(arr, n, k, 0, 0, 0);
               System.out.println(ans + "\n");
       }
}
```