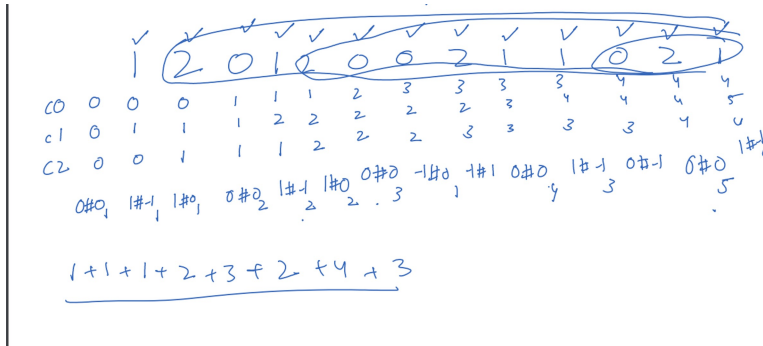


Subarrays with equal no. Of 0s, 1s and 2s

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<https://practice.geeksforgeeks.org/problems/equal-0-1-and-23208/1/>

Find subarrays, which have equal no. Of 0,1 and 2s.



The approach is - Suppose at any point of time, if no. Of 0s,1s and 2s are x,y and z. And after some time if the no. Of 0s, 1s and 2s all are increased same time, let say 'a'. i.e x+a,y+a,z+a. Then that subarray is said to be as equal no. Of 0s,1s and 2s in it.

Code -

```
class Solution
{
    long getSubstringWithEqual012(String str)
    {
        long ans = 0;
```

// code here

```
int c0 = 0;
```

```
int c1 = 0;
```

```
int c2 = 0;
```

```
String key = "0#0";
```

```
HashMap<String, Integer> map = new HashMap<>();
```

```
map.put(key, 1);
```

```
for(int i = 0; i < str.length(); i++){
    char ch = str.charAt(i);
```

```
    if(ch == '0'){
```

```
        c0++;
```

```
    } else if(ch == '1'){
```

```
        c1++;
```

```
    } else {
```

```
        c2++;
```

```
    }
```

```
    key = (c1 - c0) + "#" + (c2 - c1);
```

1. Three variables -
C0 - no. Of counts of 0s
C1 - no. Of counts of 1s
C2 - no. Of counts of 2s

2. Hashmaps key - (c1-c0)#(c2-c1)

3. Create a hashmap

4. put value to "0#0" to 1.

5. For every element if it is 0, then increase the c0 by 1,
If it is 1, then increase the c1 by 1....so on for c2 also.

6. Create a key for every instance

```
key = (c1 - c0) + "#" + (c2 - c1);  
  
if(map.containsKey(key)){  
    int val = map.get(key);  
    ans += val;  
  
    map.put(key, val + 1);  
} else {  
    map.put(key, 1);  
}  
}  
  
return ans;  
}  
}
```

7. If it is already available (key), then put the value and add it to the ans.

increase its value by one.

8. Else, if key is not present, then add that key and its value as 1.