⇒ Power of a String

```java
public static int powerString(String str) {
    int i = 0;
    int count = 1;
    int ans = 0;
    while (i < str.length()) {
        int j = i + 1;
        while (j < str.length()) {
            if ( str.charAt(i) != str.charAt(j) ) {
                ans = Math.max( ans, count );
                count = 1;
                break;
            }
            count++;
            j++;
        }
        i = j;
    }
    ans = Math.max( ans, count );
    return ans;
}
```

i j

a a a d d c c c c c b b b b b b

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

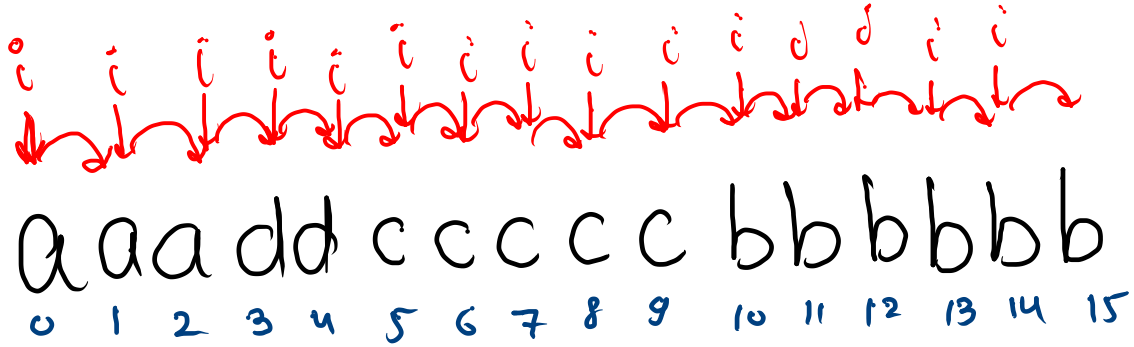
i=0, j=1

Count = ~~1~~ ~~2~~ ~~3~~ ~~1~~ ~~2~~ ~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ 6

ans = ~~0~~ ~~3~~ ~~5~~ 6

T.C = O(N), S.C = O(1)

approch 3



count = ~~1~~ ~~2~~ ~~3~~ ~~1~~ ~~2~~ ~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ 6

ans = ~~0~~ ~~3~~ 5

if unequal
↳ potential point to update ans

else
↳ keep incrementing count

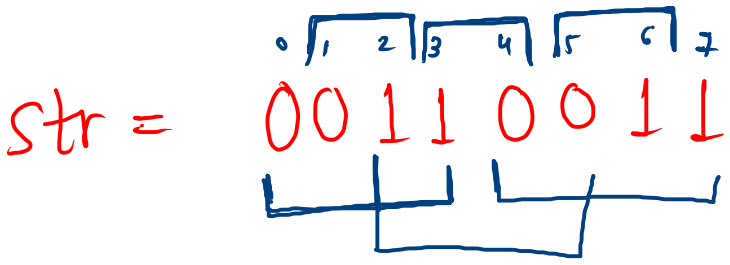
approch 3

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    String str = scn.nextLine();

    System.out.println(powerString(str));
}

public static int powerString(String str) {
    int count = 1;
    int ans = 0;
    for (int i = 0; i < str.length() - 1; i++) {
        if ( str.charAt(i) == str.charAt(i + 1) ) {
            count++;
        } else {
            ans = Math.max(ans, count);
            count = 1;
        }
    }
    ans = Math.max(ans, count);
    return ans;
}
```

Count Substring of 0 and 1



0011 → (0,3)

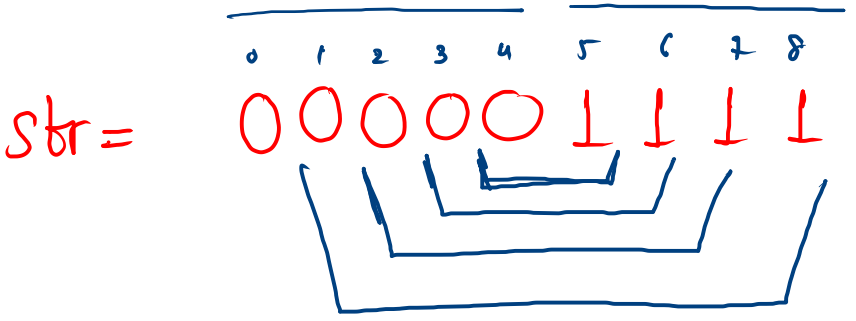
1100 → (2,5)

0011 → (4,7)

01 → (1,2)

10 → (3,4)

01 → (5,6)



01 → (4,5)

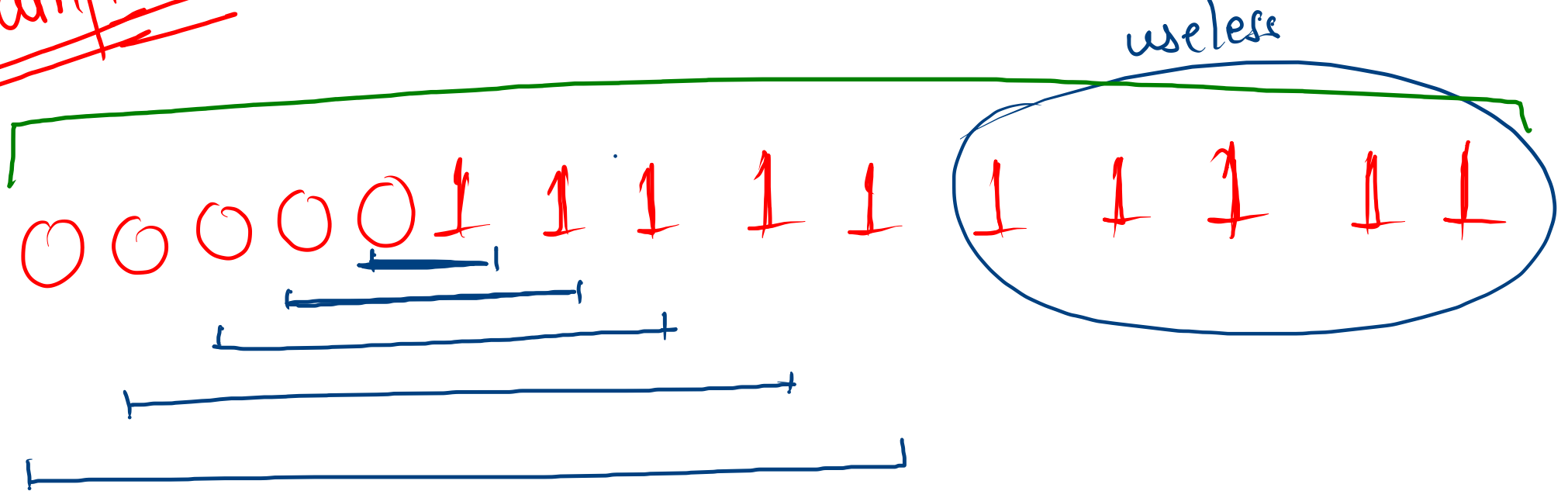
0011 → (3,6)

000111 → (2,7)

00001111 → (1,8)

ans = 4

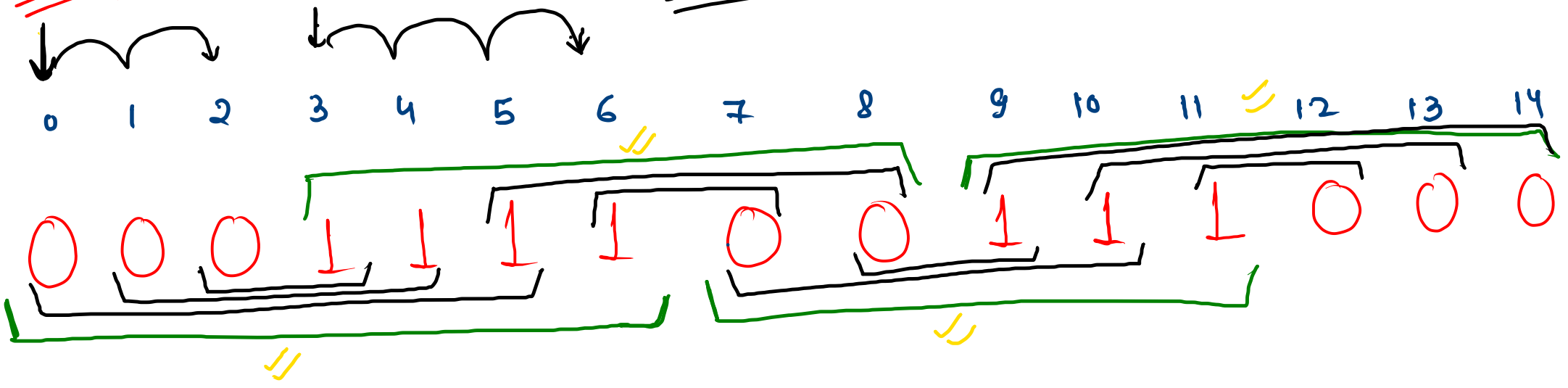
example 1



countzero = 5
countone = 10
} → min(5,10) = 5

example 2

ans = 10



c0 = ~~3~~ ~~2~~ ~~2~~ 3

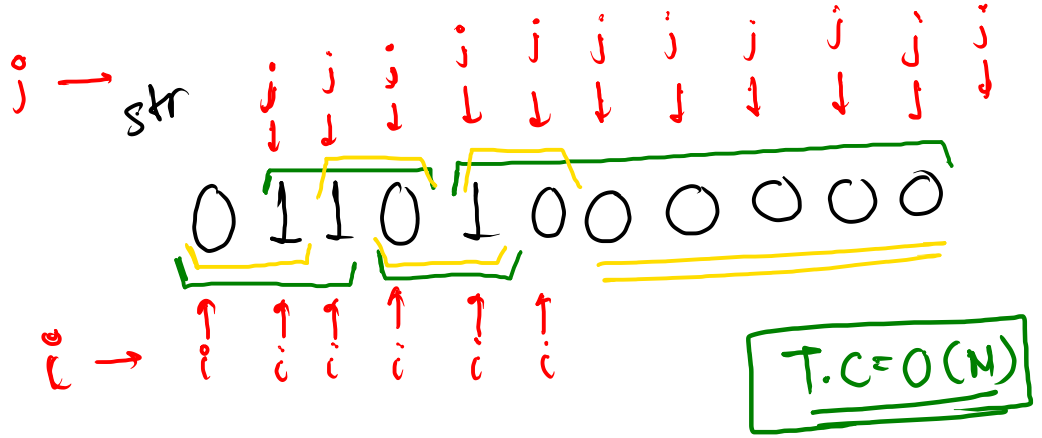
c1 = ~~4~~ ~~4~~ ~~3~~ 3

ans = 3 + 2 + 2 + 3 = 10

Approch

```java
public static int count01(String str) {
    int i = 0;
    int n = str.length();
    int ans = 0;
    while (i < n) {
        int countZero = 0;
        int countOne = 0;
        if ( str.charAt(i) == '0' ) {
            while ( i < n && str.charAt(i) == '0' ) {
                countZero++;
                i++;
            }
            int j = i;
            while (j < n && str.charAt(j) == '1') {
                countOne++;
                j++;
            }
        } else {
            while ( i < n && str.charAt(i) == '1' ) {
                countOne++;
                i++;
            }
            int j = i;
            while ( j < n && str.charAt(j) == '0' ) {
                countZero++;
                j++;
            }
        }

        ans += Math.min( countZero, countOne );
    }
    return ans;
}
```



c0 = 0 x 0 x 0 x 0 6

c1 = 0 x 0 x 0 x 0 1

ans = 1 + 1 + 1 + 1 = 4

approch 2

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    String str = scn.nextLine();

    System.out.println(count01(str));
}

public static int count01(String str) {
    int curr = 1;
    int prev = 0;
    int ans = 0;
    for (int i = 1; i < str.length(); i++) {
        if ( str.charAt(i) == str.charAt(i - 1) ) {
            curr++;
        } else {
            ans += Math.min( curr, prev );
            prev = curr;
            curr = 1;
        }
    }
    ans += Math.min( curr, prev );
    return ans;
}
```