Solution for Edu 172

(c) Given a 1-indexed binary string. Let s_i be the difference of 1s and 0s of indices $i...n$. Let a_j be the start index of jth group, m be the number of groups. Then the total score is

$$\sum_{i=1}^{m}(i-1)\left(s_{a_i}-s_{a_{i+1}}\right)=\sum_{i=2}^{m}s_{a_i}$$

So the solution would be constructing all s_i and choose the next maximum s_i until the sum is greater than or equal to k. Note that we can only add $n-1$ numbers of s_i becasue a_1 will be ignored, however, since $a_i < a_{i+1}$, s_1 will always be ignored (either not choosen or becomes a_1), so we only need to keep track of $s_2, ..., s_n$.