```cpp
for(int i = 1;i <= n;++i) {
    dp[i] = INF;
    for(int j = 0;j < i;++j) {
        if(in[i] - in[i-j-1] >= 0)
            dp[i] = min(dp[i], dp[i-j-1]+j);
    }
    // cout << i << " -> " << dp[i] << endl;
}
```

$i - j - 1$

j

```cpp
for(int i = 1;i <= n;++i) {
    it = lower_bound(sums.begin(), sums.end(), pair<LL, int> (in[i], i));
    pos = it - sums.begin();

    dp[i] = tree.query(0, pos) + time;
    ++time;
    tree.update(pos, dp[i] - time);
}
```
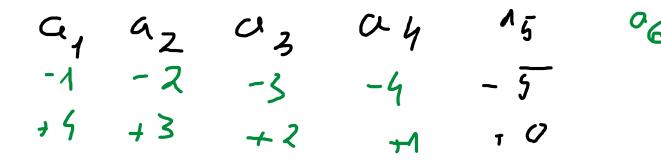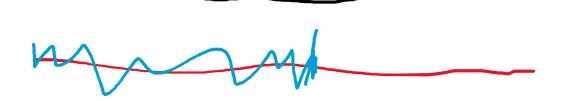
$a_1 \quad a_2 \quad a_3 \quad a_4 \quad a_5 \quad a_6$

$-1 \quad -2 \quad -3 \quad -4 \quad -5 \quad +5$

$+4 \quad +3 \quad +2 \quad +1 \quad +0$

$a_4 \quad a_5$