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Task 1. Efficient Jumping window structure

a)

In the Jumping windows algorithm, if we maintain the running sum of most recent window, we will have the maximum absolute error = w/2 because now, we do note take into account all value of the last one sub-windows(partially expiring).

So, the error w now becomes w/2 implies that **w = 2 * epsilon * W**

b)

We need 1/ (2 * epsilon) + 1 (extra sub-windows) sub-windows for this implementation. Each sub-windows we need a array of integer the length of 256 (int[256]). In total we need **(1/ (2 * epsilon) + 1) * 256 * 4** Bytes. Note that if the value epsilon is smaller, we need more memory for the precision.