Column Packing Problem

We define $\{x_0, x_1, x_2 \ldots x_n\}_{ord}$ to be a set with an ordering of the elements, such that x_0 is before x_1 is before x_2 and so on.

Consider c, an arbitrary constant integer, and $x_0, x_1, x_2 \ldots x_n$, integers such that $\forall m : 0 < x_m \leq c$. We wish to partition the ordered set $\{x_0, x_1, x_2 \ldots x_n\}_{ord}$ into ordered sets $S_0, S_1, S_2 \ldots S_p$ such that where m and p are such that $n \leq pm$:

$$\begin{aligned} S_0 &= \{x_0 \ldots x_{m-1}\}_{ord} \\ S_1 &= \{x_0 \ldots x_{2m-1}\}_{ord} \\ &\vdots \\ S_p &= \{x_{(p-1)m} \ldots x_n\}_{ord} \end{aligned}$$

Define $\lceil S_i \rceil = x_{max(S_i)}$ where $x_{max(S_i)}$ is the largest x_j in S_i.
We wish to maximise p such that:

$$\sum_{q=0}^{p} \lceil S_q \rceil \leq c - p$$

A) What is the theoretical fastest time to do this.
B) Find an algorithm that takes the theoretically fastest time.