1)

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Approach: To solve the this problem, bottom-up

manner is used, For any element, there was 2 option.

Start new sum and, add the solution.

$$P(n) = \text{Max}[P(n-1) + A[i], A[i]]$$

↓

profit

$$T(n) = \sum_{i=0}^{n} 1 \rightarrow \Theta(n)$$

b-) I didn't solve this question in previous homework, but

the divide and conquer solution would be worse. This

one is better.

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2) To solve this problem, previous approach is used.

$$T(n) = \sum_{i=1}^{n+1} \sum_{j=0}^{i} 1 - 1 \sum_{i=1}^{n+1} i+1$$

2, 3, 4, $n+2$

$$\hookrightarrow \frac{(n+2).(n+3)}{2} - 1$$

$T(n) = \Theta(n^2)$

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3) Approach: To solve this problem, I've calculate profit of each cheese and sort them with using bubble sort. According to profits, I fill the box with most profit ones.

$$T(n) = \underbrace{\text{sorting}}_{O(n^2)} + \text{counting}$$

$$O(n^2) + O(m.n) \longrightarrow T(n) = \Theta(n^2)$$

4) Approach; Using greedy algorithm, activities sorts to their finish time, select activities and counts the comes which starts bigger than finish time.

$$T(n) = \text{sorting} + \text{finding max} \longrightarrow \sum_{i=0}^{n} 1 \rightarrow n$$

$$\Theta(n^2) + \Theta(n) = T(n) = \Theta(n^2)$$

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