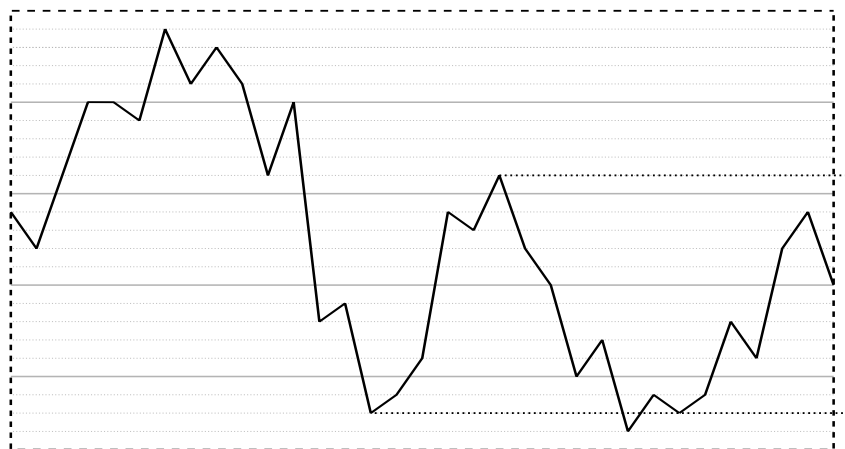# Datenstrukturen & Algorithmen   Programming Exercise 2   FS 13

We consider the development of a share price, and the goal is to compute the maximal value increase. The prices are given as a sequence of price changes. For example, the sequence

$$-2, 4, 4, 0, -1, 5, -3, 2, -2, -5, 4, -12, 1, -6, 1, 2, 8, -1, 3, -4, -2, -5, 2, -5, 2, -1, 1, 4, -2, 6, 2, -4$$

corresponds to the following price development:

For this example, the maximal price increase is 13.

Input   The first line of the input contains only the number t of test instaces. After that, we have exactly one line for each test instance containing the numbers $n, d_1, d_2, ..., d_n$. While $n \in \mathbb{N}$, $1 \leq n \leq 10^5$ describes the number of following data points, and $d_i \in \mathbb{Z}$, $-100 \leq d_i \leq 100$ is the change of the price at time unit i for $1 \leq i \leq n$.

Output   For every test instace, we want to output a single line containing the maximal price increase for this instance. This value is defined as

$$\max \left(0, \max_{1 \leq i \leq j \leq n} \sum_{k=i}^{j} d_k \right)$$

Example

Input:

```
2
32 -2 4 4 0 -1 5 -3 2 -2 -5 4 -12 1 -6 1 2 8 -1 3 -4 -2 -5 2 -5 2 -1 1 4 -2 6 2 -4
10 -5 -1 -4 -2 -2 -9 -10 -2 -3 -4
```

Output:

```
13
0
```

Hand-in: until Wednesday, 6th March 2013.