## Quiz 3. KMP

1. Fill in the missing values of the overlap function for pattern
$P=a a a b b a b a b a a a a a$

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $a$ | $a$ | $a$ | $b$ | $b$ | $a$ | $b$ | $a$ | $b$ | $a$ | $a$ | $a$ | $a$ | $a$ |
| 0 | 1 | 2 | 0 |  | 1 | 0 | 1 |  | 1 | 2 | 3 |  |  |

2. Consider the snapshot of a pattern vs text alignment during the KMP search. The 5 first characters of P and T were compared, and the character at position 6 does not match.

- What is the start position (in $T$ ) of the next alignment of a pattern with a text?
- Determine the position of the character in T to be compared next:

|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $T$ | $a$ | $a$ | $b$ | $a$ | $a$ | $\underline{b}$ | $a$ | $b$ | $a$ | $a$ | $a$ | $a$ | $a$ |
| P | $a$ | $a$ | $b$ | $a$ | $a$ | $\underline{a}$ |  |  |  |  |  |  |  |

