

Exact Pattern Matching

Quiz, 4 questions

4/4 points (100%)

✓ **Congratulations! You passed!**

[Next Item](#)1 / 1
points

1.

For the Brute Force algorithm (from this lecture) matching some Pattern against the Text *AAAAAAAAAAT*, which of the Patterns below will require the **maximum** number of comparisons throughout the whole algorithm?

1 / 1
points

2.

You've just tried to match the Pattern *AACTAACAT* against some Text starting from position 3 and you know that *AACTAAC* is the longest common prefix of the Pattern and the suffix of the Text starting in position 3:

???AACTAAC?????????
AACTAACAT

What is the maximum amount by which you can shift the Pattern to the right without missing an occurrence of the Pattern in the Text?

1 / 1
points

3.

What are the values of the prefix function for the string *ACATACATACACA*?

1 / 1
points

4. Exact Pattern Matching

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What is the total number of times that the condition of the while loop will be checked in this pseudocode for *ComputePrefixFunction* if we call it for the string *ACATACATACACA*?

4/4 points (100%)

ComputePrefixFunction(*P*)

```
s ← array of integers of length |P|
s[0] ← 0, border ← 0
for i from 1 to |P| - 1:
    while (border > 0) and (P[i] ≠ P[border]):
        border ← s[border - 1]
    if P[i] == P[border]:
        border ← border + 1
    else:
        border ← 0
    s[i] ← border
return s
```

