Feedback — Module 2

Help Center

Thank you. Your submission for this quiz was received.

You submitted this quiz on **Sun 20 Sep 2015 1:41 AM CDT**. You got a score of **10.00** out of **10.00**.

Question 1

Boyer-Moore: How many alignments are *skipped* by the bad character rule for this alignment?

Note: the number of skips is one less than the number of positions P shifts by. That is, if the pattern shifts by 2 positions, that's 1 alignment skipped.

Also note: the question is asking only about the alignment shown. Do not consider any other alignments of P to T in your answer.

```
T: GGCTATAATGCGTA
P:  TAATAAA
```

You entered:

0

Your Answer		Score	Explanation
0	✔	1.00	
Total		1.00 / 1.00	

Question 2

Boyer-Moore: How many alignments are skipped by the good suffix rule in this scenario?

```
T: GGCTATAATGCGTA
P:  TAATTAA
```

You entered:

3

Your Answer		Score	Explanation
3	✔	1.00	
Total		1.00 / 1.00	

Question 3

Boyer-Moore, true or false: for given P and T, it's possible that some characters from T will never be examined, i.e., won't be involved in any character comparisons.

Your Answer		Score	Explanation
◉ True	✔	1.00	
○ False			
Total		1.00 / 1.00	

Question 4

Consider a version of Boyer-Moore that uses only the bad character rule (no good suffix rule), and say our pattern P is a random string of 50% As and 50% Ts. In which scenario would you expect Boyer-Moore to skip the most alignments?

Your Answer		Score	Explanation
◉ The text T consists of 10% As, 10% Ts, 40% Cs and 40%Gs	✔	1.00	

○ The text T consists of 40% As, 40% Ts, 10% Cs and 10%Gs		
○ The text T consists of 25% As, 25% Ts, 25% Cs and 25%Gs		
Total		1.00 / 1.00

Question 5

The naive exact matching algorithm preprocesses:

Your Answer		Score	Explanation
○ The text T			
◉ Neither	✔	1.00	
○ The pattern P			
○ Both			
Total		1.00 / 1.00	

Question 6

The Boyer-Moore algorithm preprocesses:

Your Answer		Score	Explanation
○ Neither			
○ Both			
○ The text T			
◉ The pattern P	✔	1.00	
Total		1.00 / 1.00	

Question 7

In which of the these scenarios is an offline matching algorithm not appropriate?

Your Answer		Score	Explanation
○ A tool that evaluates a password by comparing it against a large database of bad (easy-to-guess) passwords			
◉ Your web browser's "find" function that allows you to find a particular word on the web page you are currently viewing	✔	1.00	
○ A tool that searches for words in an archive of every speech made in the U.S. Congress			
Total		1.00 / 1.00	

Question 8

Say we have a k-mer index containing all 5-mers from T. We query the index using the first 5-mer from P and the index returns a single index hit. What can we say about whether P occurs in T? Assume T is longer than P and that P is at least 6 bases long.

Your Answer		Score	Explanation
○ It definitely does			
○ It definitely does not			
◉ We don't know; not enough information	✔	1.00	
Total		1.00 / 1.00	

Question 9

Say we have a k-mer index containing all k-mers from T and we query it with 3 different k-mers from the pattern P. The first query returns 0 hits, the second returns 1 hit, and the third returns 3 hits. What can we say about whether P occurs in T?

Your Answer		Score	Explanation
○ It definitely does			
◉ It definitely does not	✔	1.00	
○ We don't know; not enough information			
Total		1.00 / 1.00	

Question 10

Which of the following is not an "edit" allowed in edit distance:

Your Answer		Score	Explanation
◉ Transposition	✔	1.00	
○ Deletion			
○ Insertion			
○ Substitution			
Total		1.00 / 1.00	