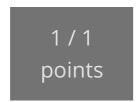


1. Which one of the following is the first gene for this strand of DNA where you want to consider all three of the stop codons?



"AATGCTAACTAGCTGACTAAT"

ATGCTAACTAG

ATGCTAACTAGCTGA

Correct

This is the correct answer.

- ATGCTA
- ATGCTAA
- The empty string
- CTAACTAGC



2. Consider the following code segment to count the number of times the string "TG" occurs in the string dna, that does not work correctly.



1 String dna = "CTGCCTGCATGATCGTA";
2 int pos = dna.indexOf("TG");
3 int count = 0;
4 \* while (pos >= 0) {
5 count = count + 1;
6 pos = dna.indexOf("TG",pos);
7 }
8 System.out.println(count);

Which of the following best describes the error?

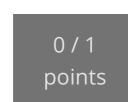
- The variable pos should be initialized to 0 in line 2 and only set with indexOf inside the while loop.
- The count is off by 1. The count should be initialized to 1 to take into account the first "TG" that is found.
- Each time pos is reset in the while loop it finds the same "TG".

Correct!

The two lines in the body of the while loop should be swapped so the count happens after pos is given a new value.



3. Consider the following segment of code from a program.



```
1  while (count < 3) {
2    count += 1;
3    newDna = newDna + dna.substring(startPos,pos);
4    startPos = pos+1;
5    pos = dna.indexOf("T", startPos);
6    if (pos == -1) {
7       break;
8    }</pre>
```

How many different ways are there to break out of this loop?

0, it is an infinite loop

This should not be selected

This is not a correct answer.

Correct

Correct!



4. Which one of the following conditionals correctly evaluates to true if the integer num is an odd number and to false if it is an even number.



1 if (num % 2 == 1)

1 if (num % 2 == (num+1) % 2)

- 1 if (num % 2 == 0)
- 1 \*f (hum % 2 num % 2)
- 1 if (num % 2 == num % 2)