Feedback — Week 3 Quiz

You submitted this quiz on **Wed 23 Sep 2015 10:01 AM PDT**. You got a score of **10.00** out of **10.00**.

Question 1

Which type of algorithm selects the most attractive choice at each step?

Your Answer		Score	Explanation
○ Brute force search			
○ Combinatorial algorithm			
◉ Greedy algorithm	✔	1.00	
○ Dynamic programming algorithm			
○ Machine learning algorithm			
○ Randomized algorithm			
Total		1.00 / 1.00	

Question 2

True or false: a motif of lowest score with respect to a collection of strings must appear as a substring of one of the strings.

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

Question 3

Order the following probability distributions from lowest to highest entropy:

A: (0.5, 0, 0, 0.5)

B: (0.25, 0.25, 0.25, 0.25)

C: (0, 0, 0, 1)

D: (0.25, 0, 0.5, 0.25)

Your Answer		Score	Explanation
○ C, B, D, A			
○ A, B, C, D			
○ A, C, B, D			
○ B, C, A, D			
● C, A, D, B	✔	2.00	
Total		2.00 / 2.00	

Question 4

Consider the following profile matrix:

```
A:  0.4  0.3  0.0  0.1  0.0  0.9
C:  0.2  0.3  0.0  0.4  0.0  0.1
G:  0.1  0.3  1.0  0.1  0.5  0.0
T:  0.3  0.1  0.0  0.4  0.5  0.0
```

Which of the following strings is a consensus string for this profile matrix? (Select all that apply.)

Your Answer		Score	Explanation
☑ ACGTTA	✔	0.33	
☐ AGGTCA	✔	0.33	
☑ AAGCTA	✔	0.33	

☐ TCGCGA	✔	0.33
☐ AAGCCA	✔	0.33
☑ ACGCGA	✔	0.33
Total		2.00 / 2.00

Question 5

Consider the following motif matrix:

```
CTCGATGAGTAGGAAAGTAGTTTCACTGGGCGAACCACCCCGGCGCTAATCCTAGTGCCC
GCAATCCTACCCGAGGCCACATATCAGTAGGAACTAGAACCACCACGGGTGGCTAGTTTC
GGTGTTGAACCACGGGGTTAGTTTCATCTATTGTAGGAATCGGCTTCAAATCCTACACAG
```

Which of the following 7-mers is a median string for this motif matrix? (Select all that apply.)

Your Answer		Score	Explanation
☐ ATAACGG	✔	0.33	
☑ GAACCAC	✔	0.33	
☐ GTCAGCG	✔	0.33	
☐ CGTGTAA	✔	0.33	
☑ TAGTTTC	✔	0.33	
☐ AACGCTG	✔	0.33	
Total		2.00 / 2.00	

Question 6

Consider the following profile matrix *Profile*:

```
A:  0.4  0.3  0.0  0.1  0.0  0.9
C:  0.2  0.3  0.0  0.4  0.0  0.1
G:  0.1  0.3  1.0  0.1  0.5  0.0
```

```
T:  0.3  0.1  0.0  0.4  0.5  0.0
```

Compute Pr(CAGTGA|*Profile*). (Express your answer as a decimal and do not round your answer.)

You entered:

0.0108

Your Answer		Score	Explanation
0.0108	✔	2.00	
Total		2.00 / 2.00	