Preparatory checklist | Sequence alignment & search | Day03–05

A checklist for self-learning ideas, topics, and definitions that will help you make the most out of the module that is going to be covered next week.

Algorithms & coding
- [ ] What is an algorithm?
- [ ] What is a pseudocode of an algorithm?
- [ ] What is recursion and what are loops (for, while)?
- [ ] What is a conditional statement (if, else) and how is it used in coding?

Biology
- [ ] What is DNA? What does a DNA sequence look like? What do A, T, G, and C mean?
- [ ] What is a protein? What does a protein sequence look like? What do the individual characters in the sequence mean?

Probability & statistics
- [ ] What does probability mean?
- [ ] How do you write a mathematical expression for the probability that: i) even A occurs, and ii) two events A and B occur together?
- [ ] What is a probability distribution? What do the parameters in a probability distribution mean?
- [ ] What is the difference between a discrete and a continuous probability distribution?
- [ ] How do you write a mathematical expression for the probability that a particular variable x is less than or equal to a particular value S?
- [ ] What is the binomial distribution? What kinds of processes doe this distribution capture well?
- [ ] What is the exponential distribution? What kinds of processes doe this distribution capture well?

Analytical concepts & techniques
- [ ] What is a matrix?
- [ ] How do you write a mathematical expression to refer to a particular cell in the matrix based on its row and column?