

Introduction to Bioinformatics

Problem Set: Intro to BioBIKE

1. What are some reasonable actions if you encounter problems in BioBIKE?
2. * How do you save your work in BioBIKE?
3. * How can you recall what you did in a previous session?
4. Using just the displayed sequence of the Avar chromosome, what is the length of the gene that begins closest to coordinate 4000?
5. Find the article by Belasco et al that you will be reading later in the week.
6. What is the longest gene amongst the first 10 genes of Avar and how long is it?
7. What is the length of the longest gene of all the genes of Avar?
8. What is the average length of the genes of Avar? What is the standard deviation of the lengths?
9. Approximately what fraction of a genome do you think is taken up by genes and what fraction by nongene sequences? Why do you think so?
10. Let's do something simple, like $1+1$.
 - Bring down the SUM-OF function from the ARITHMETIC menu, AGGREGATE-ARITHMETIC (I agree, a function so basic as this one should be easier to find).
 - Now bring down DISPLAY from the INPUT-OUTPUT menu, type the number 1 in its argument box, and execute. If all is well, you see the number 1.
 - Fine, now copy and paste the completed DISPLAY function into the first number box of the SUM-OF function, and also paste it into the second number box.
 - Now you're ready to go. Execute the SUM-OF function. What do you get? Why? How can you fix the function to get the answer you believe to be correct?

* Starred questions probably will require knowledge of BioBIKE beyond what you know or can readily figure out. By implication, the non-starred questions probably don't.