BNFO 301 – Introduction to Bioinformatics
Problem Set 4 - Loops

1. Write a loop that says hello 10 times.

2. Write a loop that prints the name of every organism, each on a separate line.

3. Write a loop that prints the genome size of every organism, next to the name of the organism.

4. Write a loop that calculates the total number of nucleotides known by BioBIKE.

5. Write a loop that calculates the probability of encountering a nucleotide sequence in a genome with [A] = [C] = [G] = [T].

6. Write a loop that calculates the probability of encountering a nucleotide sequence in a genome with [A] = 0.3. The following template may be helpful:

    ```
    (FOR-EACH letter IN "fill-in-sequence"
         WITH fill-in
         AS A% = 0.3
         AS C% = fill-in
         AS G% = fill-in
         AS T% = fill-in
         (IF-TRUE (EQUAL letter "A")
             THEN fill-in)
         (IF-TRUE (EQUAL letter "C")
             THEN fill-in)
         . . .
         FINALLY (RETURN fill-in))
    ```

7. Write a loop that calculates the average length of a protein in SS120.

8. Write a loop that calculates and displays the name of each organism followed by the average length of a protein in that organism (this might take some 10's of seconds to execute)