

### **Challenge #3**

#### Question #1

Consider the following four individuals:

- Calvin: AATGTA
- Hobbes: ATTA
- Snoopy: ACCATG
- Tom: ATTA

- a. How would you find polymorphisms (SNPs, indels) and what are they?
  
  
  
  
  
  
  
  
  
  
- b. How many alleles are there?

#### Question #2

Generate a random DNA string of size 8-10 nucleotides.

- a. Using the string->binary conversion in Lecture 7 (slide 6), what is the lookup table using a dinucleotide index.
  
  
  
  
  
- b. In your own words, what is the advantage of a lookup table?

#### Question #3:

Using the (zoom) whiteboard, draw a picture of the puppy/grill markov model on slide 27 of lecture #7