Question 1. (1 pt.) True or False. All genes have multiple exons, but not necessarily multiple isoforms.

ANSWER: False.

Question 2. (1 pt.)

Circle the ID next to the isoform that has 5’ UTR containing the shortest exon.

Question 3. (1 pt.)

Circle the ID next to the isoform with the 5’ UTR with the shortest intron

Question 4. (1 pt.)

Circle the link for the tool to align sequence to the genome.
Question 5. (2 pts.)

Assume this gene is on the forward strand. Write down the two possibilities for the codon that codes for the amino acid affected by the SNP.

**ANSWER:** GAT/GAC

Question 6. (2 pts.)

What does MAF stand for?

(A) Multiple Alignment Frequency
(B) Minor Allele Frequency ← THIS ONE
(C) Missense Adjusted Frequency
(D) Marker Affected Frequency

Question 7. (2 pts.)

True or False: The following graphic indicates that UTR’s are more highly conserved than CDS.

**ANSWER:** False.