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CS123A – Bioinformatics

**Hands On Exercise #6**

**Question #1:** Which two species have the most similar beta globins?

**Answer:** Humans and the Japanese macaque.

**Question #2:** Are the beta globins of the salmon and chicken more similar than those of the salmon and dolphin?

**Answer:** Yes salmon and chicken are more closely related.

**Question #3:** Which species have the most similar beta globins?

**Answer:** Humans and the Japanese macaque.

**Question #4:** Are the beta globins of the salmon and chicken more similar than those of the salmon and dolphin?

**Answer:** Yes. When there is a cyan character in the salmon protein, there is a much greater chance that it is in the chicken protein than in the dolphin protein.

**Question #6:** Which species have the most similar beta globins?

**Answer:** Humans and the Japanese macaque. They share a common ancestor most recently.

**Question #7:** Are the beta globins of the salmon and chicken more similar than those of the salmon and dolphin?

**Answer:** Yes. In the phylogenetic tree, chicken and salmon share an ancestor more recently than bottlenosed dolphin and salmon.