1. In class, we discussed how universal properties can be encoded as functors valued in sets. How would you encode your favorite universal propeties this way? Here are some suggestions: kernel, limit, initial object.

2. We only discussed 'recipient' universal propeties in class. How would you encode a 'donor' universal property with a functor? What should be the domain and codomain of the functor?

3. Encode some of your favorite 'donor' universal properties as functors. Some suggestions: coproduct, initial object, cokernel, colimit, tensor product (of modules).

4. Can you prove in general that a universal object (in other words, an object equipped with data witnessing its universality for some universal property) is unique up to unique isomorphism?