1. **Quiz 3**

1. Answer the following questions regarding the class diagram (and underlying model) given below.

![Class Diagram](image)

1. What attributes does a *Commercial* have?

2. How many Videos can an Actor have a Role in? *Why*?

3. Can two Producers ever have the same Movie Idea (the object)? *What about the UML composition relationship supports your answer?*
2. Answer the following questions regarding the use case diagram (and underlying model) given below.

1. What complete operations can an intern do?

2. Describe the meaning of the extend relationship from Request College Credit to Update W-4.

3. Describe the meaning of the include relationships from Update W-4 and Request College Credit to Acknowledge Legal Requirements.
3. Identify two “diagram smells” in the state machine diagram below and state *why* they are considered smells.

1. “Smell” One *and reason*:

2. “Smell” Two *and reason*:
4. Answer the following questions regarding the sequence diagram (and underlying model) given below.

1. Describe what the three “steps” (interactions started with outgoing messages) of the Website do in our model – that is, summarize at a higher level than just stating what the UML notations are.

2. How would the behavior of our model differ if `printKey` were a synchronous message (instead of the asynchronous message it currently is)?
5. Create a class diagram for the model summarized below.

Imagine a model for a hypothetical health care company called AndyBluePoint. The company needs two mutually exclusive categories of people: patients and providers. All people have a name and an age. A provider also has a certification level and can be asked to provide care. A patient can be asked to visit a clinic.

Every patient can be assigned to one, two, or three providers. Each provider has their own medical records for each patient they are assigned. A medical record can be ordered to be visible (shared) with other interested parties.

Each patient has their own unique set of vital signs (measurements of organ function) which are created with the patient and continue to exist as an integral part of that patient. Vital signs can be recorded when asked.