When researching sequence diagrams this is what I learned:

<https://www.geeksforgeeks.org/unified-modeling-language-uml-sequence-diagrams/>

Sequence Diagrams (aka event diagram or event scenario):

* Interaction diagram: Used to show the interactive behavior of a system
* Depicts interaction between objects in a sequential order
* Describe how and in what order the objects in a system function

Sequence Diagram Notations:

1. **Actors**: always outside the scope of the system, used to depict various roles (human users and external subjects) can have multiple (represented by stick person)
2. **Lifelines**: named element that depicts an individual participant, each instance is represented by a lifeline. Located at the top, naming standard looks like this- Instance Name:Class Name, displayed in a rectangle, with a dashed line below. Diff between lifeline and actor is lifeline portrays object that is internal, and Actors are external
3. **Messages**: communication between objects which appear in sequential order on the lifeline, represented by arrows
4. **Guards**: used to model conditions, used when we need to restrict the flow of messages on the pretext of a condition being met

Below is an example of a sequence diagram for a movie ticket kiosk. This is based from an example within Online Visual Paradigm. I notice a few things off from what I learned so I created my own example and fixed a few things. First of all I separated the customer from the ticket vending machine and then added dashed arrows instead of the solid arrows they had to represent a return/reply message.

