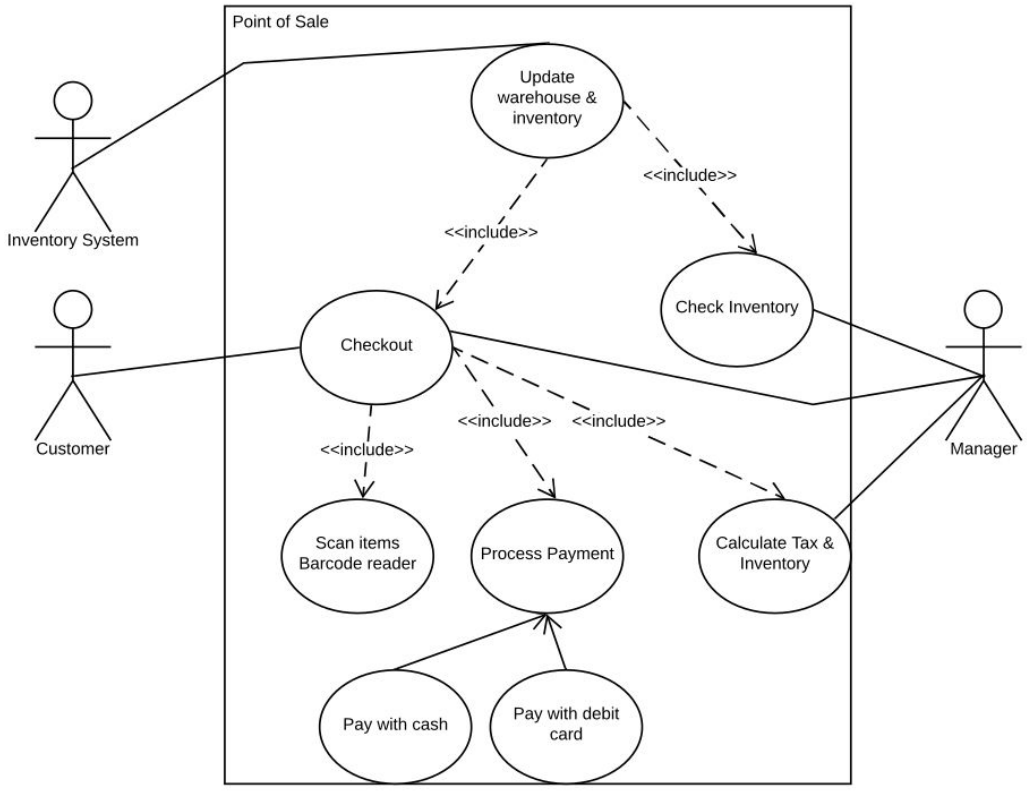
Assignment 1

Exercise 1.1
a) Develop a use case diagram for a point-of-sale (POS) system.
A POS system is a computerized application used to store sales and process payments. It is usually used in shops. It includes hardware components such as a computer and a barcode scanner as well as software to run the system. The application has interfaces to various service applications, such as tax calculation or inventory control. POS systems must be relatively fault-tolerant. This means that even if remote services such as the warehouse management system are temporarily unavailable, the application must still be able to handle sales and at least cash payments.

=>> Point of Sale system:



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b) What does a Use-Case diagram describe and how to get the information?
=>> Use case diagrams are usually referred as behavior diagrams used to describe set of actions that some system should or can perform in collaboration with one or more external users of the system.

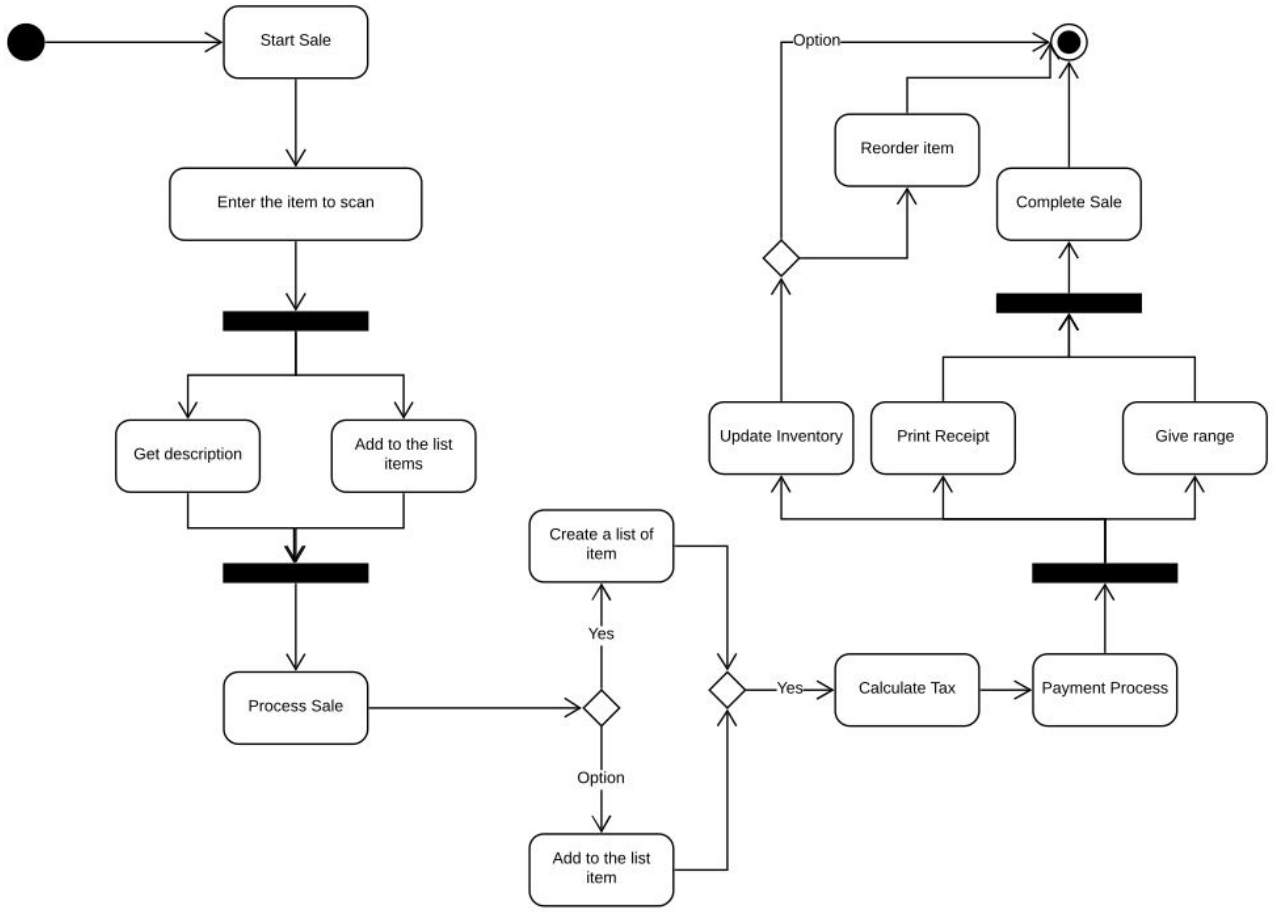
c) Select at least three different structure elements from the use case diagram and explain their semantics.
=>> System , Actor, include, exclude
exclude => may contain or may not (you may not excuse me with opened eyes)
include => mandatory inclusion (but you cannot sneeze with open eyes)
system => where the whole system is being designed.

2. Exercise 1.2 – Assignment

a) Explain the notation elements of the activity diagram.
=> Activity diagrams are also behavior diagrams which shows flow of control or object flow with emphasis on the sequence and conditions of the flow.

Start Point: System Flow Diagram starts at this point
Action State: Represents the activity state
Action flow: As an arrow, represents the flow to other action state
Decision Symbol: Lets us define if/else conditions
Synchronization: Lets us define many actions states at once.

b) Develop an Activity Chart for the Point of Sale System from Task 1.1 for the Use Case "Perform Sales".



c) Explain the notation elements of the state diagram.
=> It is a behavior diagram which shows discrete behavior of a part of a designed system through finite state machines. Used to express the usage protocol of part of a system.

Start Point: Start of the system
Transition: Represents transfer to the next state (an arrow)
State: Action Stage, what will be done.

d) Develop a state diagram for the point of sale system from task 1.1 for the use case "Perform Sales".