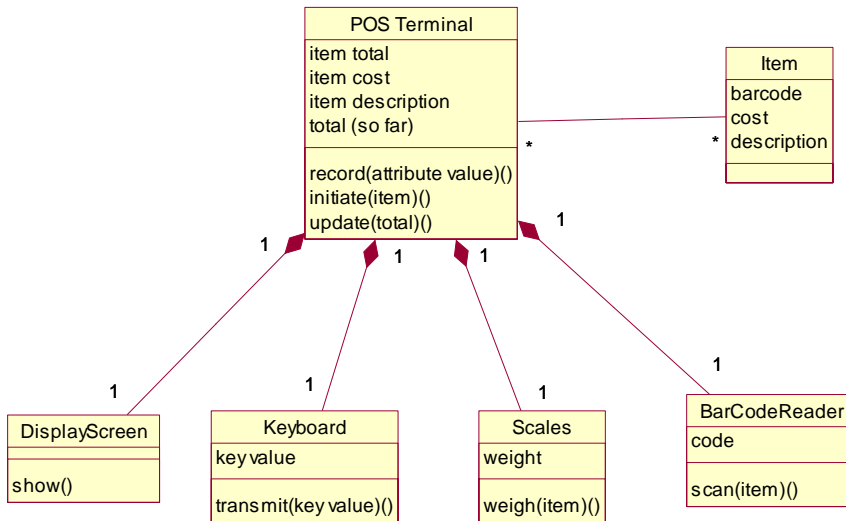


# M8748: Information Systems Analysis & Design

## Exercise 3

(A) A point of sale (POS) system can be modelled by the class diagram:



Consider the following scenario for this computerized point of sale system:

Press “new customer” key on keyboard to initialize (including setting running total to zero)

For each item the customer has:

- Either scan item code and type in quantity on keyboard
- Or type in item code and weigh item on the scales
- If item code is not valid display shows an error message
- Otherwise display shows item description and price
- Add price to running total

Press “total now” key on keyboard to indicate that there are no more items

Display shows total amount owed

Draw a sequence diagram illustrating the given scenario, using objects from the classes shown in the class model and no others.

(B) Consider the case where the instruments on a vehicle dashboard have to be refreshed periodically. This is shown on a collaboration diagram by a message “display current reading” being sent from an object “Dashboard Monitor” to an object “Instrument”. Decide whether this message should be shown as:

- (i) A synchronous message
- (ii) A flat (or simple) message
- (iii) An asynchronous message