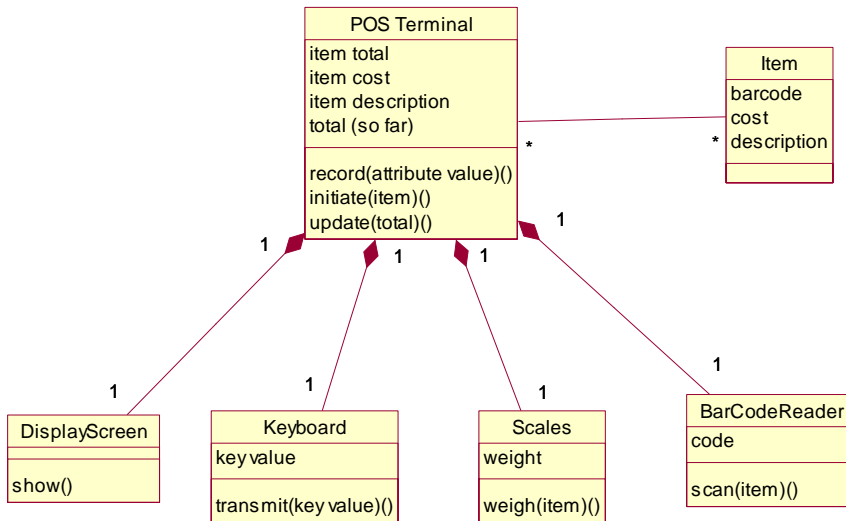


M8748: Information Systems Analysis & Design

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