ADDITIONAL TOPICS - OO DESIGN 2000

SAMPLE ANSWER

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p7q13

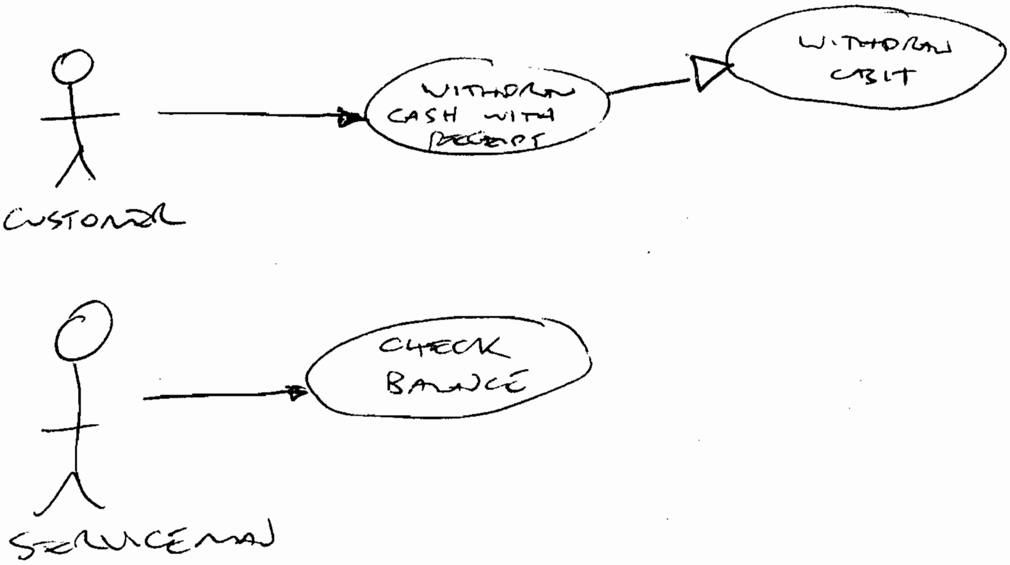
PART 1.

I. USE CASE MODEL

a) PROVIDES STRUCTURE WITHIN WHICH DEVELOPERS AND CLIENTS CAN DISCUSS FUNCTIONALITY AS SEEN BY USER

b) FROM USER STUDIES OR INTERVIEWS

c)

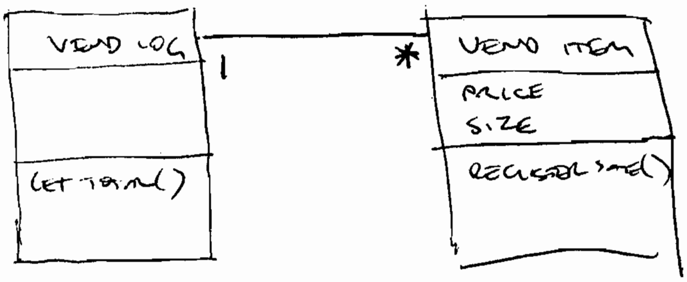


II.

a) ALLOWS ALTERNATIVE TYPE HIERARCHIES TO BE EXPLORED VIA NARRATION SCENARIOS

b) POTENTIAL CLASSES COME FROM OBJECTS NAMED IN USE CASES

c)

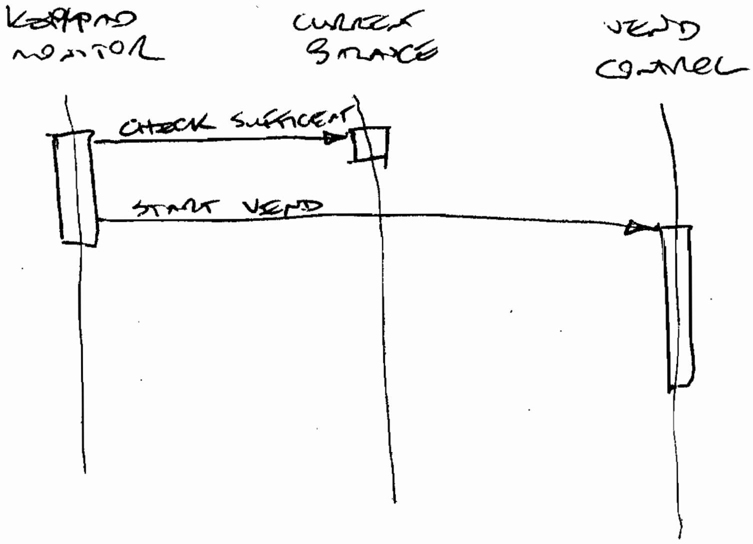


III INTERACTION DIAGRAM

a) ENSURES COMPLETE IMPLEMENTATION OF USE CASE IN CONTEXT OF OBJECT DESIGN

b) FROM USE CASE, NARRATION AND STRUCTURE MODELS. POSSIBLY ALSO FROM BEHAVIOURAL SPECIFICATION

c)



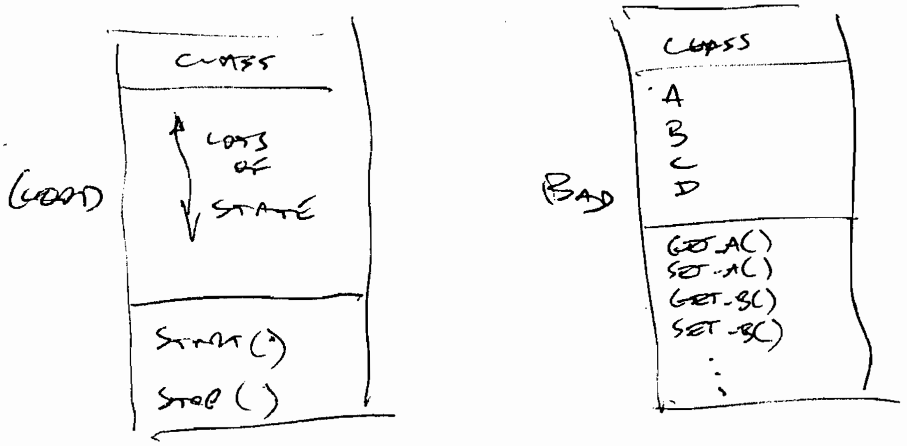
PART 2

1. ENCAPSULATION – THE INTERNAL STATE OF AN OBJECT SHOULD BE HIDDEN AS MUCH AS POSSIBLE

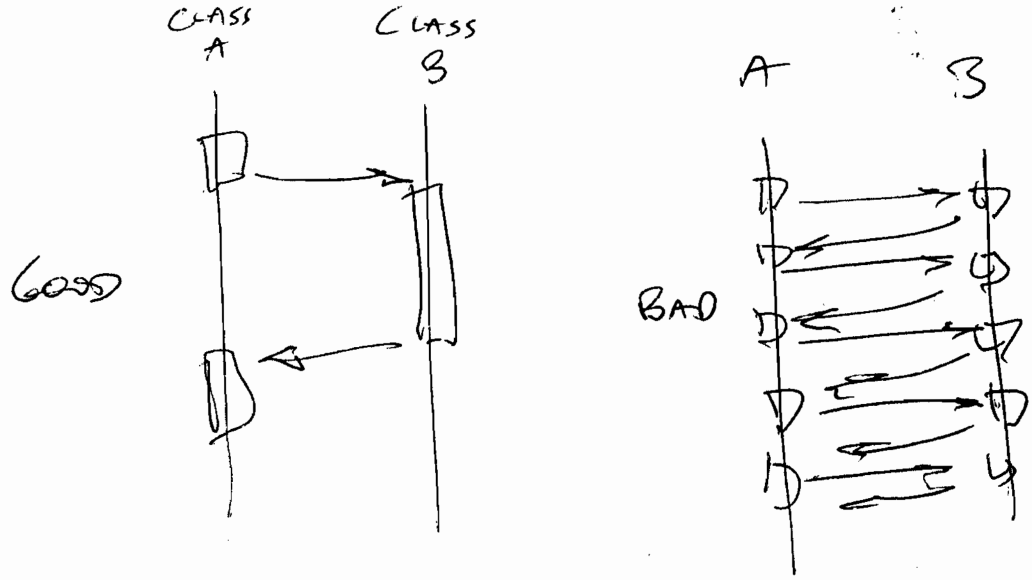
2. LOOSE COUPLING – MODULES AND CLASSES SHOULD INTERACT WITH ONE ANOTHER USING ONLY A SMALL NUMBER OF INTERFACES

3.

ENCAPSULATION:



LOOSE COUPLING:



PART 3

THE PROBLEM OF MEMORY LEAKS IN C++ CAN BE ANTICIPATED BY USING THE STATE MODEL TO ENSURE THAT INSTANCES ARE DESTROYED WHEN THEIR CONTRIBUTION TO THE SYSTEM BEHAVIOUR IS COMPLETE.

COMPLETE ANSWER FOR FULL MARKS - 20 MINUTES