QB9Solution

[A, 1 point] Multiple Choice

[A1] The specification of a contract for an operation of a use case is part of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. (a)

(a) Analysis (b) Design

[B, 8 points] Fill-in:

[B1 ] If an application consists of packages P1, P2, and P3 , where P1 depends on P2 and P3; and P2 depends on P3, the order in which the packages should be implemented is: package \_\_\_\_\_\_\_\_\_\_\_\_ first,

then package \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and at last, package \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. (P3, P2, P1.)

[B2] A contract for an operation must include a \_\_\_\_\_\_\_- condition and a \_\_\_\_\_\_- condition. (pre, post)

[B3] The classic three-tier architecture consists of the following three tiers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. (Presentation, Logic, Storage)

[B4] The middle tier of the three tier architecture is the \_\_\_\_\_\_\_\_\_\_\_ tier, which can be

divided into two parts: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(Logic, Application Logic, Business Logic)

[B5] A controller class must communicate with the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ classes and

also with the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ classes.(Presentation tier classes, Business Logic, Storage)

[B6] If a sequence diagram becomes too big, one can instead use a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ diagram.

(Collaboration )

[B7] A collaboration diagram can be conveniently divided into two parts: one part includes :

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_classes and the other part includes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

classes.(Boundary classes + Controller class, Controller class + Business, Entity classes)

[B8] The final product of the design process is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ class diagram. (Design)

[C, 3 points] True/False

[C1] There must be a controller class for each operation of a use case. (T)

[C2] All tiers make use of the class library of the implementation language. (T)

[C3] A use case can be split into several operations. (T)

[D, 1 point] Short Answer:

[D1] Explain the rules that specify how a collaboration diagram suggests methods and dependencies to

be added to an analysis class diagram to obtain the design class diagram.

See pp. 237-238 of the “UML in Practice” textbook.