



ĐỀ KIỂM TRA **QUÁ TRÌNH** HỌC KỲ 1 NĂM HỌC 2021-2022

Lớp :
Môn thi : Kiến trúc phần mềm
Hình thức thi : Bài tập về nhà

KHOA CÔNG NGHỆ THÔNG TIN

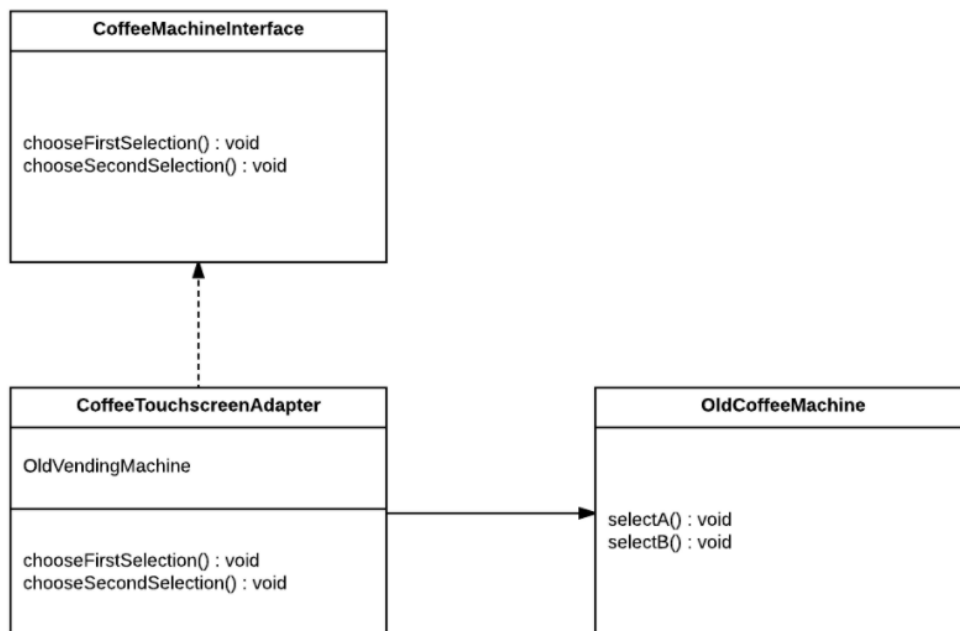
In these exercises, you are required to write a source code to implement these systems.

Noted: you are free to use any programming language, but need to clarity at the beginning which language you use.

Question 1:

You are working in an office with an old coffee machine that dispenses two different coffee flavors. However, the new boss wants to add a new coffee machine with a touchscreen that can also connect to the old coffee machine. Complete the provided code to add an adapter so that the new touchscreen will to work with the old coffee machine.

Use the following UML class diagram for a guide:

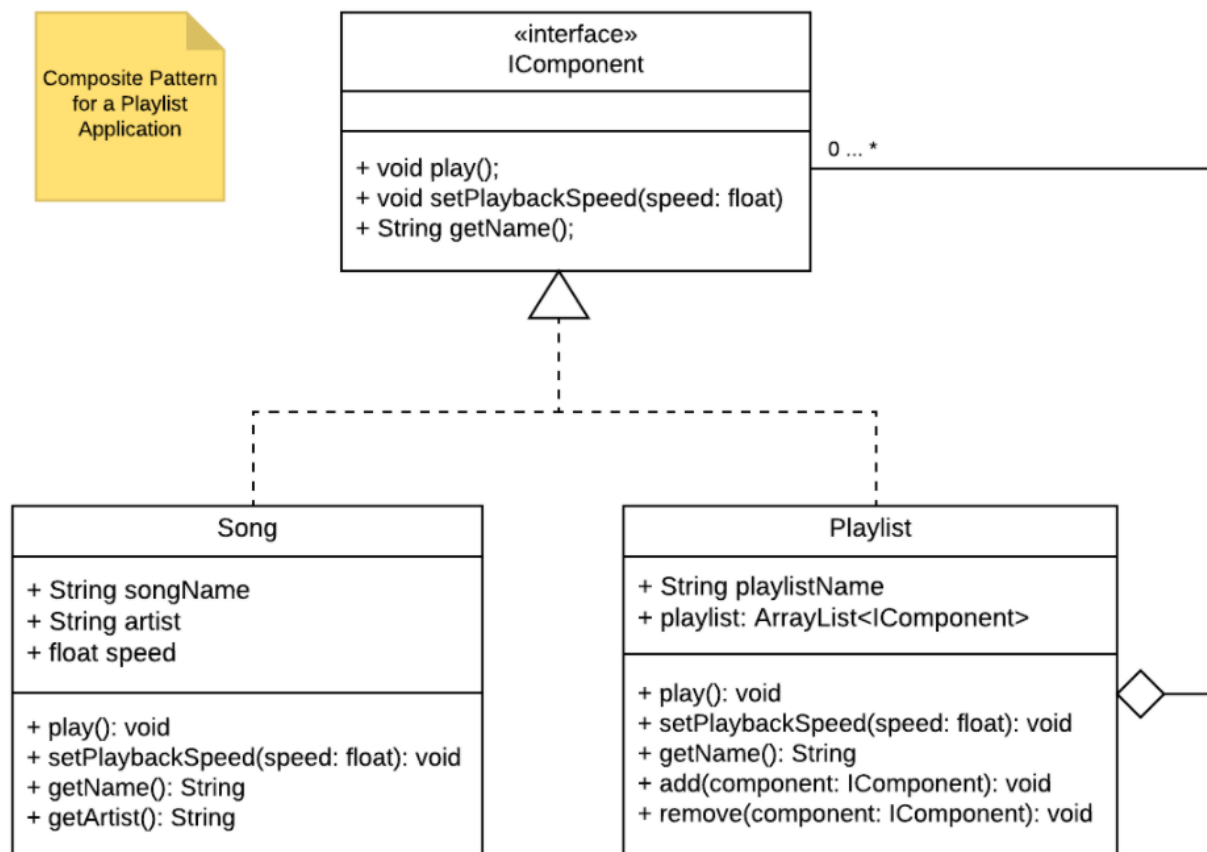


Question 2:

You have been asked to create a playlist application that will be used on Android devices (using the Java language). We will assume that each playlist can be composed of songs or other playlists, or a combination of both.

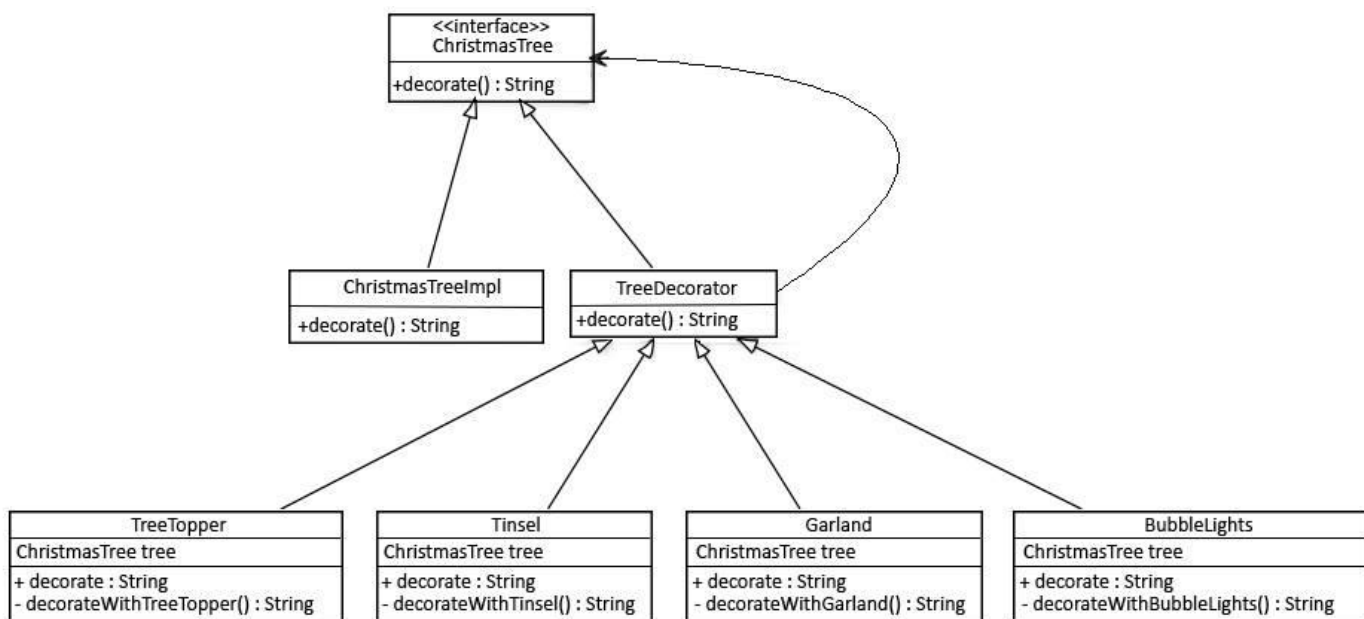
Your project manager has told you that the composite pattern is best used in this situation. The following UML class diagram that communicates the application's objects and relationships using the composite pattern.

In this assignment you are required to complete the provided code. (Note: With the exception of the Playlist class, you do not need to actually implement the methods, just write filler comments (eg., // play song). With the Playlist class, write out the method to add songs to the playlist).



Question 3:

Suppose we have a Christmas tree object and we want to decorate it. The decoration does not change the object itself; it's just that in addition to the Christmas tree, we're adding some decoration items like garland, tinsel, tree-topper, bubble lights, etc.:



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