

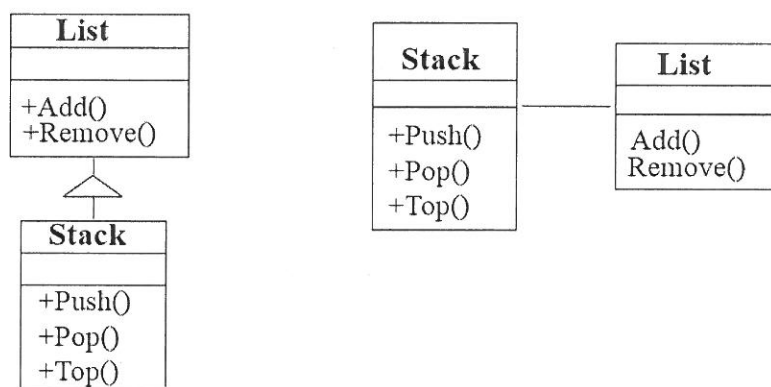
104 學年度 博班資格考 軟體工程試題

命題方式: close book 考試時間: 共 4 小時

共 1 頁 第 1 頁

第一部分：50 分

1. What is open/close principle in object-oriented programming? Explain it with an example. (15%)
2. One of the reasons to use the Composite pattern is when we want to represent part-whole hierarchies of objects. The other is when we want clients to be able to ignore the difference between compositions of objects and individual. That means clients will treat all objects in the composite structure uniformly. Please draw the structure and explain with a fraction of code to answer the questions. (20%)
3. Describe the differences between inheritance and delegation. Which of the following model is better? Describe the reason. (15%)



第二部分：50 分

1. Explain the pipe and filter architecture with an example. (10%)
2. Describe five benefits of software reuse. (10%)
3. Describe three types of abstract system model should be produced in the MAD (Model-Driven Architecture) method. (10%)
4. Describe six essential features that should be included in a tool to support change management processes. (10%)
5. Some very large software projects involve writing millions of lines of code. Explain why the effort estimation models, such as COCOMO, might not work well when applied to very large systems. (10%)