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| CS2800 Coursework 1 Report |  |
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## Introduction

I found this assignment to be extremely enjoyable and I learnt a lot of coding practices, design patterns and software design protocols within a short amount of time. I created my first release on the 8th of Decemeber, which although buggy, was completely functional. Overall, I loved using SVN, even with all the setbacks it included and the familiarity of simply coding algorithms like RPN and the Shunting algorithm, was welcomed. I would say that the hardest part of the assignment was understanding and implementing the observers. If I had a longer timescale, I would love to have implemented many more design patterns.

## UML and Design Patterns

[To get started right away, just tap any placeholder text (such as this) and start typing to replace it with your own.]

*“Find even more easy-to-use tools on the Insert tab, such as to add a hyperlink or insert a comment”*

# Moodle Exam Questions

Answer all parts and include your answers in your report.

(a) Give three different features of the editor component of a modern Java IDE that reduce the time taken by coders to add business value. [3 marks]

(b) In SVN what are the steps (and SVN commands) necessary to complete the following processes?

i. Creating a new feature branch. [2 marks]

ii. It is sensible to finalise working code at the end of the day and to clean down your machine. Give a careful description of how you would use SVN during the day when only you are assigned to a feature (branch). You should list any SVN commands and explain what they do. Also briefly explain why each step may be necessary. [4 marks]

iii. Conflict resolution when a colleague has committed a code edit to a file on a feature branch that causes a conflict when you update. You should say what SVN does to show you the conflict, and how you would fix the conflict. Describe any SVN commands that you would need to use. Also describe how an external tool could be useful [3 marks]

iv. Cutting a tag for a new minor release when enough fixes and features have been merged into the trunk. You should indicate whether conflicts are likely, unlikely or impossible at each stage. [5 marks]

(c) We intend to track faults (and fixes) in our SVN system with a text file Buglist in the root of the archive.

i. What information is necessary in each entry of the Buglist? [6 marks]

ii. Would there be any advantage in tracking faults discovered and fixed during system tests? [2 marks]

(d) Read the following and then answer questions about improving the design.

We sell a variety of media: DVDs, books or downloadable. Each item has a price, a weight and a text description. Each buyer has a shopping container which is all of the items that the buyer has either: expressed interest in, committed to, purchased, or received. The delivery cost items is calculated by adding up the weights of the paid for and not yet delivered items, and then using a table of shipping costs.

Buyers can add, or remove, purchase or commit to purchase an item. We calculate the total value of committed, but not yet purchased items, and the delivery cost of purchased, but not yet delivered items. Our design involves creating only two new classes: Buyer and Item. An Item has a char field status which is ’i’, ’c’, ’p’ or ’r’. A Buyer contains a single ArrayList. We will iterate over this list to calculate the total weight. Every DVD is the same weight and items delivered electronically weigh nothing. This design has considerable primitive obsession.

i. Describe the fields and methods of three simple classes from your initial refactoring to remove this primitive obsession. [3 marks]

ii. Show how one of the three classes introduced in Part i. increases overall class coherence. [2 marks]