

# COSC 3P91

## Lab Test 1

### Marking Scheme

The test is worth a total of 20 marks. The details are as follows:

1. The attribute `final` is used as indicated in the diagram (2 marks). Deduct ½ mark for each error.
2. The access modifiers (`public`, `protected`, `private`) are used as indicated in the diagram (2 marks). Deduct ½ mark for each error.
3. 2 mark (in total) for the constructor in each class (classes `Army`, `Hex`, `Item`, `Place`, `TerrainContent`, and `TerrainType`). Parameters must be as in the diagram, additional variables are initialized appropriately (see code) and super constructors are called when needed.
4. 1 mark (in total) for `addItem`, `dropItem` in the class `Hex`. Delegation/Forwarding has to be used.
5. 1 mark for `toString` in the class `Hex`. Implemented as provided.
6. 1 mark for the class `TerrainType`. Use of a private constructor is required.
7. 1 mark (in total) for the methods `addItem`, `dropItem`, `numItems` in the class `TerrainContent`.
8. 1 mark for the method `contentSize` in `TerrainContent`.
9. 1 mark for the method `toString` in `TerrainContent`.
10. 1 mark (in total) for the methods `getSize`, `getCoalition`, `changeColation` in the class `Item`.
11. 1 mark for the abstract method `getDetails` in `Item`.
12. 1 mark for `computeHitPoints` in the class `Army`. Delegation/Forwarding has to be used.
13. 1 mark for the method `getDetails` in `Army`.
14. 1 mark for `reduceDefenseBonus` in the class `Place`.
15. 1 mark for the method `getDetails` in `Place`.
16. 2 marks for the class `ArmyType`. Either one of the provided implementations is correct.