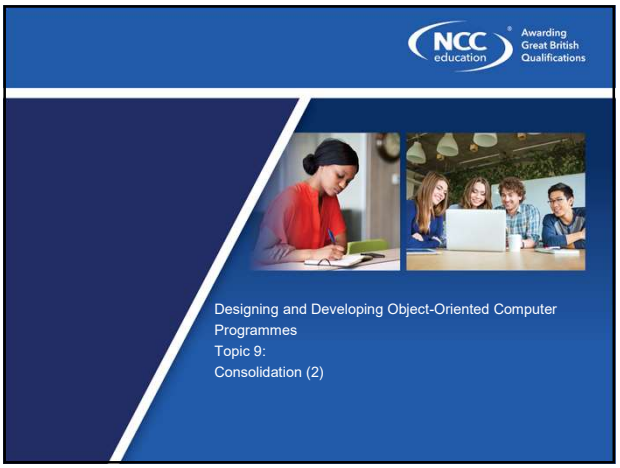
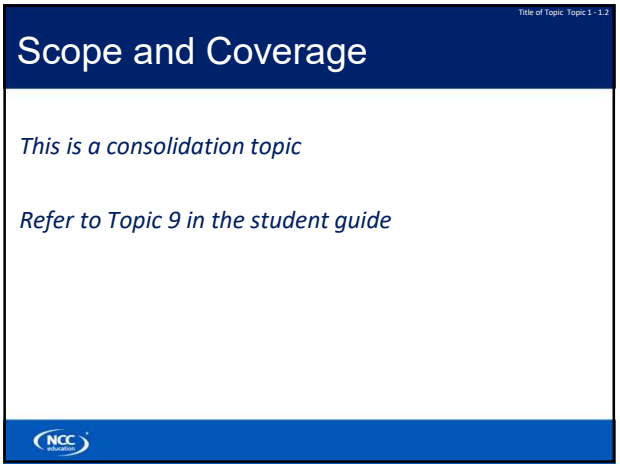
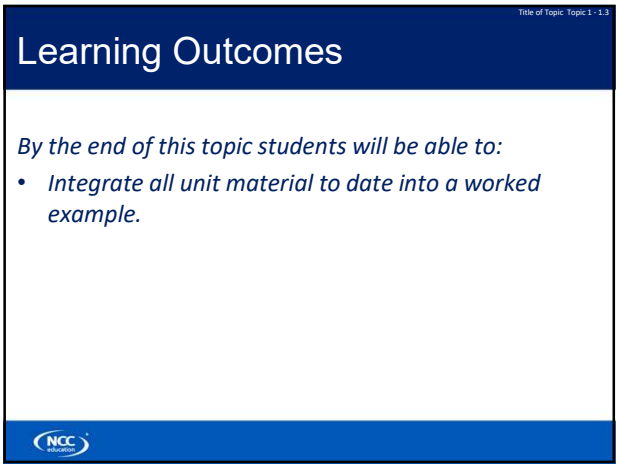

NCC education
Awarding Great British Qualifications
Designing and Developing Object-Oriented Computer Programmes
Topic 9:
Consolidation (2)

1


Title of Topic Topic 1 - 1.2
Scope and Coverage
This is a consolidation topic
Refer to Topic 9 in the student guide

2


Title of Topic Topic 1 - 1.3
Learning Outcomes
By the end of this topic students will be able to:
• Integrate all unit material to date into a worked example.

3

Title of Topic Topic 1 - 1.4

Introduction - 1

- In Topic 6, we discussed a consolidation exercise that worked to integrate all the unit content to date.
- In this chapter, we're going to look at how we can apply the principles of incremental development to modify the program we have written, making use of the techniques we have learned in the previous two topics – specifically, data structures, inheritance, and polymorphism.

4

Title of Topic Topic 1 - 1.5

Introduction - 2

- As with Topic 6, this material is presented primarily as an exercise for you to work towards, with your lecturer being able to work through the solutions with you as the class goes on.

5

Title of Topic Topic 1 - 1.6

Our Cash Machine - 1

- We saw in Topic 6 how to develop a simple cash machine using the tools we had available.
- However, because we had yet to discuss a number of key concepts in software development we were forced to implement a number of pieces of functionality that didn't work especially well.
- Consider for example that our cash machine has to check each object individually to find which account we want, and how it has a hard limit of four such accounts.

6

Title of Topic Topic 1 - 1.7

Our Cash Machine - 2

- In this chapter we're going to fix some of the deficiencies in our program, making use of the new tools we have discussed.
- Specifically, we're going to do the following:

1. Make use of a List to store Account objects.
2. Make use of inheritance to provide implementations of two separate kinds of account.
3. Make use of polymorphism to ensure that these new accounts work well together in the main program.

7

Title of Topic Topic 1 - 1.8

Our Cash Machine - 3

- We are not going to write a new version of the program to accomplish this – instead, we're going to take the one we've already written and fix it.
- This is an important skill in software development – we often write simpler versions of a program before we go back and write the proper version.
- This allows us to concentrate on the things we know how to do while waiting to find out about the things we don't.

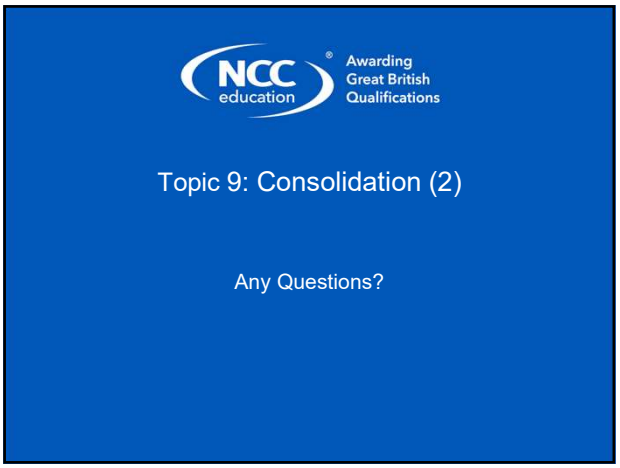
8

Title of Topic Topic 1 - 1.9

Our Cash Machine - 4

- The other approach is to wait until we know how to do everything, but that's rarely truly possible.
- Instead, we write 'placeholder' implementations of functionality with the expectation that we'll improve upon it later.
- Your task in this chapter to write the code for this application, as outlined in the Student Guide.

9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Topic 9: Consolidation (2)
Any Questions?

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