

Lesson 1.07 — Programming Project

Overview

Objectives — *Students will be able to...*

- **Construct** a program containing method calls and static methods.

Assessments — *Students will...*

- **Submit** a complete, functional program by the end of class

Homework — *Students will...*

- **Check** class notes for completion, adding daily summaries if needed.
 - Students may use the book to supplement their notes if needed.
 - **All students must turn in notes for each day of class** (even if they were absent).

Materials & Prep

- **Projector and computer** (if you are able to/opt to use Eclipse with your students)
- **Student self-help system** such as C2B4 (“see two before seeing me”) or student pairing

Make sure you are set up to grade student notebooks today while the students work on the project. If possible, you should only collect 3–5 notebooks at a time so students have their notebooks available to reference during programming time.

Pacing Guide

Section	Total Time
Bell-work and attendance	5min
Introduction & classroom procedure review	10min
Programming project #2, Chapter 1	15min
Programming project #5, Chapter 1	15min
Students trade work, check, and turn in	5min

Procedure

The second week part of this unit will be spent on reinforcing concepts and applying the tools, procedures, and code that were introduced last week. While these classes require little prep before class, you should set up a system that will allow students to help themselves and each other so you aren’t running around the computer lab the whole time.

If your computer time requires you to move to another room or to change seating, you should teach and/or review those procedures before introducing the lab material. If you expect students to submit assignments electronically, you should also model and review those procedures before students begin work.

Bell-work and Attendance [5 minutes]

Introduction and Classroom Procedure Review [10 minutes]

1. Introduce the program assignment, taking a moment to talk strategy with your class.

ASSIGNMENT: Sometimes we write similar letters to different people. For example, you might write to your parents to tell them about your classes and your friends and to ask for money. You might write to a friend about your love life, your classes, and your hobbies, and you might write to your brother about your hobbies and your friends and to ask for money.

Write a program that prints similar letters such as these to three people of your choice. Each letter should

have at least one paragraph in common with each of the other letters. Your main program should have three method calls, one for each of the people to whom you are writing.

TIPS: Try to isolate repeated tasks into methods. Include comments in with your code so others can easily understand what the code is supposed to do.

2. Ask your class for suggestions as to how to tackle this programming problem. Students should suggest drawing a structural diagram, building the program one method at a time (iterative development), and following the correction steps on their personal algorithms (debugging).

Programming Project #2, Chapter 1 [15 minutes]

Get students started on Programming Project #2 in Chapter 1 of the textbook. Offer students help after they have tried to answer the questions themselves:

1. Have they checked the book for examples?
2. Have they asked a friend (or two) for help?

If students seem to be getting stuck on the same segment of code, offer a hint or tip on the board (silently, without disrupting student flow).

If the entire class is stuck, return to whole group and work through the programming challenge together as a class, having students offer an increasing proportion of the answers as you move along.

Programming Project #5, Chapter 1 [15 minutes]

Introduce Programming Project #5 in Chapter 1 of the textbook. If your class finished the first assignment quickly and easily, offer little to no guidance on this project.

Students trade work, check, and turn in [5 minutes]

At the end of class, have students briefly look at each other's projects and review their work before they submit.

Accommodation and Differentiation

If you have students who are speeding through this lesson, you should encourage them to tackle programming project #4 in the text book.

Forum discussion

Lesson 1.07 Programming Project (TEALS Discourse account required)