

PBL: Grade Book Part 1: class StudentFileWriter©2026 Chris Nielsen – www.nielsenedu.com

This assignment continues the project to create software for a school grade book that will hold the scores that students received for their assignments.

You should have completed coding and testing `class Student` and `class Assignment`.

For this part of the project, we will study code that will generate a file containing the list of students for the gradebook.

Part 1

Study the following partially-completed program and resulting output, then complete the `getStudent` method such that the program works as intended. *Hint:* to stop the input of students, use method `hasNextInt` to check if the student number is actually an integer, and return `null` if it is not.

```
import java.util.Scanner;
import java.io.PrintWriter;
import java.io.IOException;

public class StudentFileWriter {

    public static void main(String[] args) {
        try {
            Scanner keyboard = new Scanner(System.in);
            System.out.print("Enter filename: ");
            String filename = keyboard.next();

            PrintWriter writer = new PrintWriter(filename);

            Student s;
            do {
                s = getStudent(keyboard);
                if(s != null) {
                    writer.print(s.getStudentNumber() + " ");
                    writer.print(s.getFamilyName() + " ");
                    writer.print(s.getGivenNames() + "\n");
                }
            } while (s != null);
            writer.close();
            keyboard.close();

            System.out.println("\nFile written: " + filename);
        } catch(IOException e) {
            System.out.println("IO Exception:\n" + e.getMessage());
        }
    }
}
```

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```
public static Student getStudent(Scanner s) {
    int studentNumber;
    String familyName;
    String givenNames;

    System.out.println(
        "\nPlease enter the next student's information.");
    System.out.println(
        "When finished, enter x for the student number.");

    System.out.print("Student Number: ");
    if(!s.hasNextInt()) {
        return null;
    }
    studentNumber = s.nextInt();

    System.out.print("    Family name: ");
    familyName = s.next();

    System.out.print("    Given names: ");
    givenNames = s.next();

    // Remove the end of line character
    s.nextLine();

    return new Student(familyName, givenNames, studentNumber);
}
}
```

```
Enter filename: classlist.txt
Please enter the next student's information.
When finished, enter x for the student number.
Student Number: 1234
    Family name: Lee
    Given names: Bruce

Please enter the next student's information.
When finished, enter x for the student number.
Student Number: 2345
    Family name: Long
    Given names: Chen

Please enter the next student's information.
When finished, enter x for the student number.
Student Number: x
File written: classlist.txt
```