

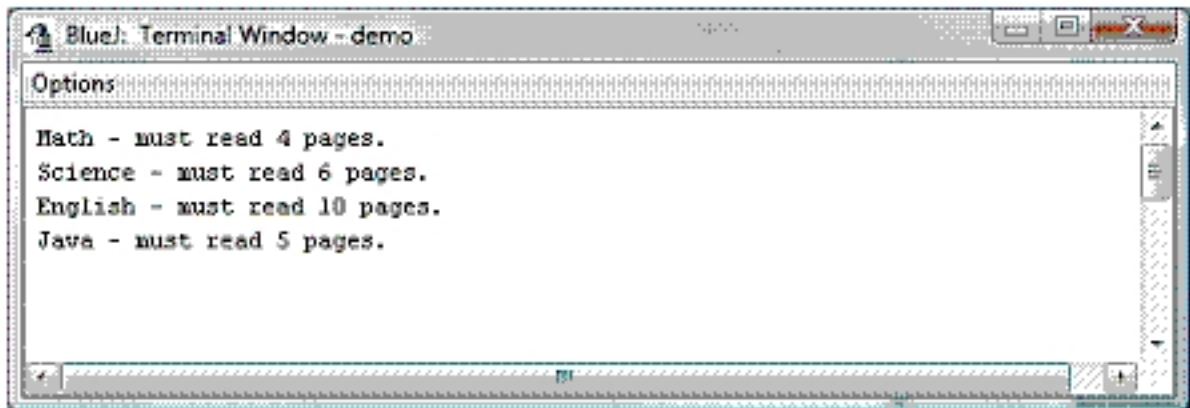
15.01 Assignment Instructions

Instructions: For this assignment, you are going to create an abstract class and then extend it.

1. Create a folder called **15.01 Assignment** in your module 15 assignments folder.
2. Create an abstract class called **Homework**.
 - a. Homework will need an instance variable **pagesRead** and methods to get and set the number of pages to read. **pagesRead** should be of type `int`.
 - b. Homework will also need an instance variable **typeHomework** and a method to get and set the type of Homework. **typeHomework** should be of `String` type.
 - c. Homework will also need an abstract method **createAssignment()**, which has parameters `int p`. Its return type should be `void`.
 - d. You will not have to add any other additional instance variables or methods, but you will have to set up the constructor to provide **pagesRead** with default value of 0 and **typeHomework** with default value of "none." It should take no arguments.
 - e. Save the class as **Homework.java**.
3. You are to create a class called **MyMath** that extends class Homework.
 - a. **MyMath**'s constructor will just call Homework's constructor and again have no arguments.
 - b. **MyMath** should implement the **createAssignment** method by setting the pages read using parameter `p`, and then set the type of Homework to "Math."
 - c. Include a **toString()** method that lists the type of Homework and the pages that have to be read for Homework.
 - d. Save the class as **MyMath.java**.
4. You are to create a class called **MyScience** that extends class Homework.
 - a. **MyScience**'s constructor will just call Homework's constructor and again have no arguments.
 - b. **MyScience** should implement the **createAssignment** method by setting the pages read using parameter `p`, and then set the type of Homework to "Science."
 - c. Include a **toString()** method that lists the type of Homework and the pages that have to be read for Homework.
 - d. Save the class as **MyScience.java**.
5. You are to create a class called **MyEnglish** that extends class Homework.
 - a. **MyEnglish**'s constructor will just call Homework's constructor and again have no arguments.
 - b. **MyEnglish** should implement the **createAssignment** method by setting the pages read using parameter `p`, and then set the type of Homework to "English."
 - c. Include a **toString()** method that lists the type of Homework and the pages that have to be read for Homework.
 - d. Save the class as **MyEnglish.java**.
6. You are to create a class called **MyJava** that extends class Homework.

- a. **MyJava**'s constructor will just call Homework's constructor and again have no arguments.
- b. **MyJava** should implement the `createAssignment` method by setting the pages read using parameter `p`, and then set the type of Homework to "Java."
- c. Include a `toString()` method that lists the type of Homework and the pages that have to be read for Homework.
- d. Save the class as **MyJava.java**.
- e. Create a test program called **testHomework.java** to test your class. Use an ArrayList of type **Homework** to test your class.

Your output should be similar to:



The image shows a screenshot of a terminal window titled "BlueJ: Terminal Window - demo". The terminal has a menu bar with "Options" and a scroll bar on the right. The output text is as follows:

```
Math - must read 4 pages.  
Science - must read 6 pages.  
English - must read 10 pages.  
Java - must read 5 pages.
```