

CECS 220 Assignment #4

Nicholas Gittings

July 10, 2018

For the first problem: LetterGradeConverter, create a class called LetterGradeConverter. Next, create 3 private variables, first an integer array list called intGrades, second a character array list called LetterGradeList, last an int called actualLength. Now, create a constructor which accepts parameters NameOfFile and actualLength. Create a try catch block which will be used to catch a file not found exception in case the file path is entered in wrong. Now put in the try block a new file object, new scan object, and a for loop which will scan through the file and add the lines read to the array list intGrades. Next call the LetterGradeConverter which takes intGrades as a parameter, this private method will be made next. Now create the private method LetterGradeConverter which accepts array list intGrades which will use a for loop to go through the intGrades array and take integers at the table provided in the instructions and create the letter grades from integers and store them in a character array list called LetterGradeList. Next, set up a toString method which will create a formatted table using a for loop to create lines with the integers on the left side and letter grade on right. Next, create a Boolean method called equals which will check to see if one LetterGradeConverter object equals another. Set up an if else condition which checks to see if object 1's intGrades/LetterGradeList equal object 2's intGrades/LetterGradeList. If they do it returns true, else it returns false. Lastly set up accessor methods to retrieve the private variables.

```
Enter file path:
C:\Coding\test.txt
Enter max size of grade list:
6
24      F
43      F
65      D
78      C
89      B
95      A

Enter another file path:
C:\Coding\testy.txt
Enter max size of second grade list:
6
24      F
43      F
65      D
78      C
89      B
95      A

true
```

This is a screenshot of the program returning a true statement from two files that are the same.

```
Enter file path:
C:\Coding\test.txt
Enter max size of grade list:
6
24      F
43      F
65      D
78      C
89      B
95      A

Enter another file path:
C:\Coding\test3.txt
Enter max size of second grade list:
6
27      F
64      D
78      C
57      F
88      B
96      A

false
```

This is a screenshot of the program returning a false statement from two files that aren't the same.

For the second problem: Vehicle, create an abstract class called Vehicle which will be a super class for the next two classes required. In vehicle, create 2 private variables, one being String OwnerName and the other being Int numberOfWheels. Then, set up accessor methods and lastly a toString method which returns a formatted multiline statement of the vehicle. Next, create the Bicycle class which extends Vehicle but has a new private String called Brand. Set up accessor and toString to return previous variables from Vehicle and Brand. Now, create a class called MotorizedVehicle which extends Vehicle but has two new private variables called String Brand and int EngineVolume. Now create a constructor and a method called horsepower which takes numberOfWheels and EngineVolume as parameters and multiplies them to calculate horsepower which is then returned. Lastly create toString and accessors for the private variables.

```
Enter name of owner:
Nick
Enter number of wheels:
2
Enter brand:
Enter name of owner:
bike
Enter number of wheels:
4
Enter brand:
Enter Engine Volume:
Volvo
Exception in thread "main" java.util.InputMismatchException
    at java.util.Scanner.throwFor(Unknown Source)
    at java.util.Scanner.next(Unknown Source)
    at java.util.Scanner.nextInt(Unknown Source)
    at java.util.Scanner.nextInt(Unknown Source)
    at vehicle.VehicleDisplay.main(VehicleDisplay.java:33)
```

Above is a bug I couldn't figure out.