

Problem 1-Fix code Submit a working program called: FilePractice.java. You will need to use the weather1.txt file to check if the program works properly (sample run follows) but do not need to include it when turning in your assignment.

```
public class FilePractice
{

    public static String[][] genFile()
    {
        Scanner in=new Scanner(System.in);
        System.out.println("Enter file name:");
        String fileName=in.nextLine();

        /*Create an ArrayList of Strings from the file name entered*/
        ArrayList<String> allLines=;

        /*Create a 2D array the that will hold all the information.*/
        String[][] result = new String[4][];

        /*This loop should run and capture all of the data*/
        int i=2;

        while (i < allLines.size())
        {
            /*Each line of the file should be put into the 2D array result*/
            result[i] = get(i).split(",");
        }

        return result;
    }

    public static ArrayList<String> readFile(String filename)
    {
        File temp = new File(filename);

        /*Create a Scanner object to read in our file*/
        Scanner iFile=new Scanner(temp);

        ArrayList<String> result = new ArrayList();

        int i=0;
```

```
/*Keep reading in each line of the file into the ArrayList*/
```

```
while(iFile.hasNextLine()==1)
{
    /*Add each line to the ArrayList*/
    result[i].add(iFile.nextLine());
}

iFile.close();
return result;
}
```

```
public static void main(String[]args)
{

    String [][] g=genFile();

    System.out.println("\nSecond row:");

    /*Print out the second row with info in the file*/
    for(int i=0;i<g.length;i++)
    {
        System.out.printf("%s ",);
    }

    /*Print out Fri 4/3/2015 (do not hardcode)*/
    System.out.println("\n\nDate: "+);

}

}
```

Sample Run:

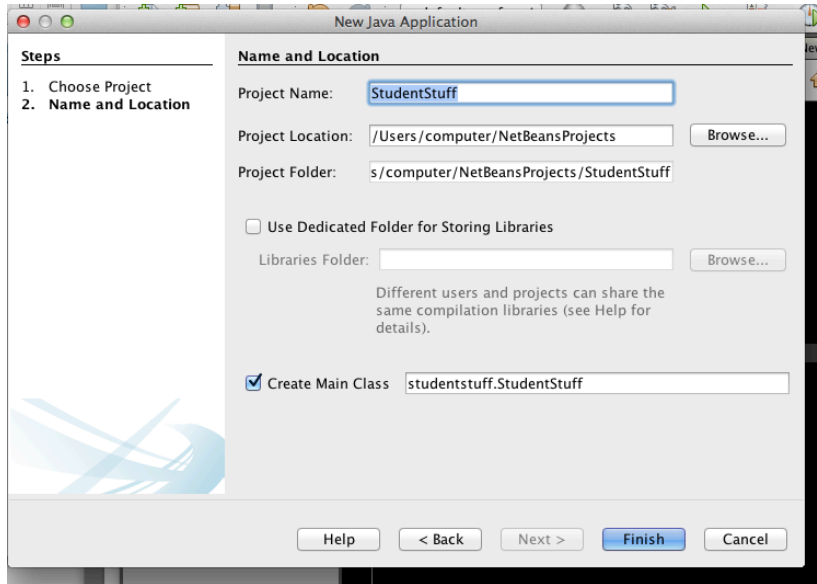
Enter file name:
weather1.txt

Second row:
Sun 3/8/2015 51 46 0.23

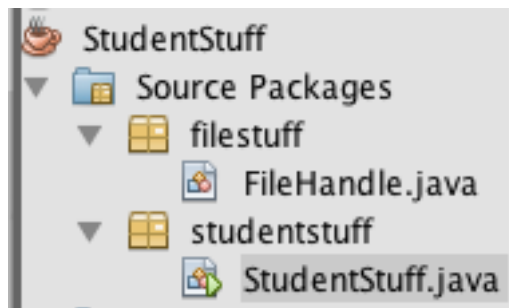
Date: Fri 4/3/2015

Problem 2-Create a program. Submit the **whole src folder**-call it src1. This should include two folders (these are the packages): filestuff and studentstuff.

- 1) Step 1: Open a project called StudentStuff. When making this project, make sure to keep the *Create Main Class* checked and DO NOT delete the lowercase studentstuff before the period (see below)-this will become the package that holds our main method.



- 2) Inside this project, create an additional package called filestuff. Inside this package, create a class called FileHandle. This class should have all the methods we created in class used for file input and output. At this point, you should have two packages in your project: studentstuff and filestuff. It should look like the following in your IDE:



- 3) Create a program that solves the following problem: Professor Z keeps track of his students in an excel spreadsheet (see file called Students.csv). It contains the student name, class number, class name and final grade in that class. He wants to create a program that allows him to do the following:
 - i. Type in a student's name and print out all information associated with that student (class number, class name and final grade) to screen.

- ii. Type in a class name and output a file with the names of all students that took the class.
- iii. Type in a class name or class number and get back the overall average grade of all students that took that class (printed to screen).
- iv. Exit the program.

Feel free to create any additional methods or classes to help you code. You must use the FileHandle class created to deal with files. Don't forget to put the file Students.csv in the project folder when testing your program-DO NOT HARDCODE any information from the file as we will be using multiple files to test your code.

No sample run.

You may find it helpful to look at past class code to get an idea of how to lay out this program.

Problem 3- Create a program. Submit a folder called src2 with all packages and classes.

You will create a program that can read in ANY file with headers. The program should allow the user to type in two of the columns (other than the first column) and take the average of the two columns. Finally, the program should print to screen the average along with the first column information and allow the user to make an output file with exactly the same information you printed to screen.

Notes:

1. You are reading in the information as a spreadsheet, meaning you do not need to make objects to hold information (which you would not be able to do anyways since we do not know what information we will be receiving in our file).
2. You should keep all your FileIO methods in one class (see the previous assignment and class code) and call them when necessary. You can decide whether or not to keep this class in a separate package or keep it in the same package as the class that holds your main. Make sure the class is included when you turn in your assignment.
- 3) DO NOT CODE ALL THE WORK OF THE PROGRAM IN MAIN-**there will be no credit for this assignment if you do not use a minimum of 3 methods to do the work of your program.** You should keep these methods in the same class as your

main. You should call the class containing the main method AvgMain and it should be kept in a package of the same name.

Sample Run 1:

Enter file name:

weather1.txt

Enter first column to find.

t

Sorry,we didn't find it.

Enter first column to find.

Temperature High

Enter second column to find.

t

Sorry,we didn't find it.

Enter second column to find.

Temperature Low

****Avg of: Temperature High and Temperature Low:****

Sat 3/7/2015: 44.0

Sun 3/8/2015: 48.5

Sat 3/14/2015: 62.0

Sun 3/15/2015: 61.5

Mon 3/30/2015: 69.0

Tue 3/31/2015: 74.5

Wed 4/1/2015: 73.5

Thu 4/2/2015: 77.0

Fri 4/3/2015: 67.0

Sat 4/18/2015: 70.0

Sat 4/25/2015: 70.5

Sun 4/26/2015: 71.5

Sat 7/4/2015: 85.5

Sun 7/5/2015: 81.5

Mon 7/6/2015: 85.5

---Enter filename to save to:

output.txt

Done writing to output.txt.

Sample Run 2 (NOTE: I SHORTENED THE PRINT OUT TO SCREEN WITH ... SINCE IT WOULD BE TOO LONG TO PUT HERE-YOU ARE EXPECTED TO PRINT OUT THE WHOLE LIST):

Enter file name:

nba.txt

Enter first column to find.

points

Enter second column to find.

d

Sorry,we didn't find it.

Enter second column to find.

rebounds

****Avg of: points and rebounds:****

Russell Westbrook : 17.7

James Harden: 16.55

LeBron James: 15.65

...

*****SHORTENED LIST HERE**

---Enter filename to save to:

output1.txt

Done writing to output1.txt.

Problem 4-Create a working main. Submit the **whole src folder**-call it src3. This should contain two folders (these are the packages): catstuff (containing the cat class) and petinfo (containing your main).

Using the following Cat class, you will create a package called catstuff and put the following Cat class inside. Your main should be in a package called petinfo that uses the Cat class (check the previous problem to guide you). **YOU MUST USE THE CAT CLASS IN THIS PROBLEM OR YOU WILL NOT RECEIVE CREDIT.**

Your main should instantiate a cat object, allow the user to enter information about the cat and finally allow the user to enter 3 favorite foods (sample run follows).

Cat class: (DO NOT MODIFY)

```
package catstuff;

import java.util.ArrayList;
import java.util.Scanner;

public class Cat {

    private String name;
    private String breed;
    private String [] colors;
    private ArrayList<String> favFoods=new ArrayList ();

    public void giveAllInfo()
    {
        Scanner in=new Scanner(System.in);

        System.out.println("Hello! You will be entering cat info.");

        System.out.println("Enter cat name:");
        name=in.nextLine();
        System.out.println("Enter cat breed:");
        breed=in.nextLine();
        giveColors();

    }

    private void giveColors()
    {
        Scanner in=new Scanner(System.in);
        System.out.println("How many colors?");
        int n=in.nextInt();
        in.nextLine();
        colors=new String[n];

        for (int i=0;i<colors.length;i++)
```

```
{
    System.out.println("Give color "+(i+1)+":");
    colors[i]=in.nextLine();
}
}
```

```
public void printOutCatInfo()
{
    System.out.println("\nName: "+name);
    System.out.println("Breed: "+breed);

    for(int i=0;i<colors.length;i++)
    {
        System.out.println(" Color:"+colors[i]);
    }
    printOutFavFoods();
}
```

```
public void addFavFood()
{
    System.out.println("Add a new favorite food:");
    Scanner in=new Scanner(System.in);
    String food=in.nextLine();
    favFoods.add(food);
}
```

```
private void printOutFavFoods()
{
    System.out.println("Favorite foods are:");
    for (int i=0;i<favFoods.size();i++)
    {
        String fd=favFoods.get(i);
        System.out.println(fd);
    }
}
```

```
}
```


}

Sample run:

Hello! You will be entering cat info.

Enter cat name:

Tom

Enter cat breed:

Persian cat

How many colors?

2

Give color 1:

white

Give color 2:

brown

Add a new favorite food:

fish

Add a new favorite food:

treats

Add a new favorite food:

mice

Just practice-NO POINTS FOR THIS PROBLEM. Create a program using objects.
Submit a folder called src2 with all packages and classes.

Benoît has a large library of albums and wants to organize them by year. He created a spreadsheet of information with the artist name, album name, and year it was published. He wants to be able to print a list to screen with the year and all the albums published that year as well as put the same information in an output file.

Both the year and album should only be printed once (no repeats). The order of the years does not matter.

Notes:

1) You should make an Album class and an AlbumCollection class to allow you to make objects. These classes should be kept in a package called albumstuff.

2) The Album class should not have any methods and all the work should be done in the AlbumCollection class.

3) The main method should be kept in a class called AlbumMain (which should be kept in a package of the same name). In the main, you should **only** create an AlbumCollection object and call methods using this object. **THERE SHOULD BE NO**

OTHER METHODS OTHER THAN MAIN IN THE AlbumMain CLASS. No credit if there are methods anywhere but the AlbumCollection class.

Do not hardcode as we will be using multiple files to test the assignment.

Sample Run (NOTE: I SHORTENED THE PRINT OUT TO SCREEN WITH ... SINCE IT WOULD BE TOO LONG TO PUT HERE-YOU ARE EXPECTED TO PRINT OUT THE WHOLE LIST):

Enter file name:

albums.txt

Albums by Year

--1966:

Revolver

Pet Sounds

Blonde on Blonde

--1991:

Nevermind

Achtung Baby

Ten

Blood Sugar Sex Magik

Metallica

User Your Illusion 1 &2

...

*****SHORTENED LIST HERE**

---Enter filename to save to:

output2.txt

Done writing to output2.txt.