

Mastery Group Assignment Reflection Log

Credit Name: CSE 2110 Procedural Programming 1

Assignment Name: Mastery Group Assignment

How has your program changed from planning to coding to now? Please explain?

From planning to coding not much changed. I still prompted the user for a first and last name and displayed their group based on the first letter of their last name. However, my code became more flushed out compared to the IPO chart by adding specific things like if statements, a statement to determine the first letter of the last name, and some print statements for both prompting and outputting.

From coding to now the difference I made was changing the string statement to find the first letter to char. And I also added my test dumps, header, and adjusted some comments in the code.

Steps

I started off by importing `java.util.scanner` which allows me to get different data types from inputs. The public class is declared as `Main` (public makes the `Main` class accessible from anywhere). Below it shows the public class is static (you can access it without creating an object), void (method doesn't return any value), main (method name), and `String[] args` (`String` represents the data type `[]` indicates that it will be an array, and `args` (arguments) is the name of the array) The scanner object `input` is created below to take in inputs from the user.

```
package Mastery;

import java.util.Scanner;

public class Groupassignment {

    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
```

Next, I prompted the user to enter their first name and recorded their answer in the variable `firstname` as a string value with `nextLine()` (this also accounts for spaces which is useful) (it records everything until the user clicks enter on their keyboard)

```
// prompt the user for their first name
System.out.print("Enter your first name: ");
String firstname = input.nextLine();
```

I did the same thing, prompting the user for their last name and making their input a variable called `lastname` recorded as a string with `nextLine()`.

```
// prompt the user for their last name
System.out.print("Enter your last name: ");
String lastname = input.nextLine();
```

After this, I got the first letter of the last name entered. I originally used string here as seen below, however, this seemed much less efficient than using char because char actually just stores 1 character or number this means I didn't need to take up as much space and it was that tiny bit more efficient. Below is the main source for finding out about char. Note that I used some other resources to learn how to select which letter to choose.

https://www.w3schools.com/java/ref_keyword_char.asp#:~:text=The%20char%20keyword%20is%20a,A'%20or%20c'.

```
String firstletter = lastname.toUpperCase().substring(0, 1);
```

Here the char variable firstletter is equal to the first letter hence charAt(0) (grabs the first character) of the user's last name. I also converted the name to uppercase in case the user entered a lowercase letter (this seemed to be a common thing for people to do on StackOverflow so I assume it is sort of a courtesy)

```
char firstletter = lastname.toUpperCase().charAt(0);
```

After this, I created my if/else if/else statements for determining the user's group. I start by declaring a string variable called group that will be assigned a value based on the result of the if, else if, and else statements. Next is my first if statement which says if the variable firstletter is >= A and is <= I then the user will be assigned group 1. (the reason that comparing letters works for Java is because of a character encoding in Java called ASCII which assigns letters a numeric value Ex. A = 65 and B = 66 ect, I learned this after realizing without it I would have to switch my game plan below is the link I used to learn a bit more about ASCII, however, I also used some other sources and read some comments on code posts to learn more about how to order it in my if statement)

<https://www.javatpoint.com/how-to-print-ascii-value-in-java>

The next if else statement also uses ASCII and says if the variable firstletter is >= to J and is <= S then the user is in group 2. After this, I made an if else statement for letter T through Z which would assign the user to group 3. Lastly, I finished off with an else statement for if the user didn't enter a valid name, this would output no group and please enter a valid last name.

```
String group;  
if (firstletter >= 'A' && firstletter <= 'I') {  
    group = "Group 1";  
} else if (firstletter >= 'J' && firstletter <= 'S') {  
    group = "Group 2";  
} else if (firstletter >= 'T' && firstletter <= 'Z') {  
    group = "Group 3";  
} else {  
    group = "*No Group Please Enter A Valid Last Name*";  
}
```

```
}
```

After this, I made a print statement that displayed the user's full name and the group they would be assigned to, or if they entered an invalid name.

```
System.out.println(firstname + " " + lastname + " is assigned to " + group);
```

Lastly, I ended with braces to close the code.

```
}  
}
```