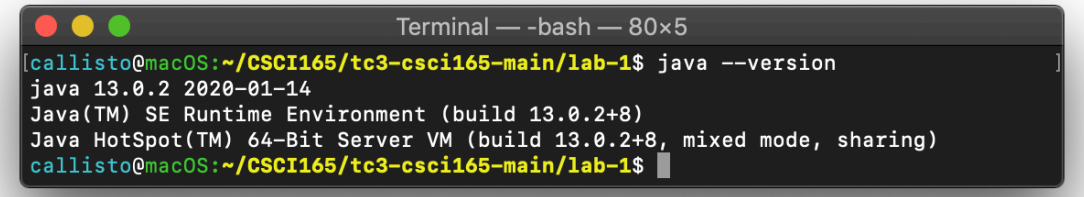
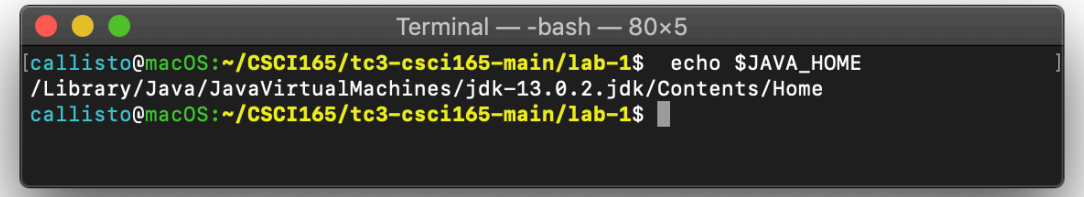
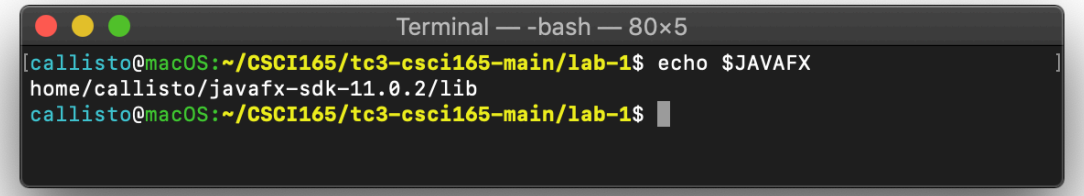
JAVA INSTALL:



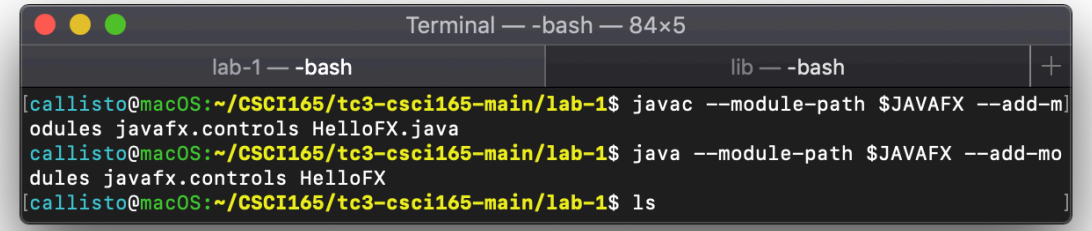
JAVA_HOME VARIABLE SET:



JAVAFX VARIABLE SET:

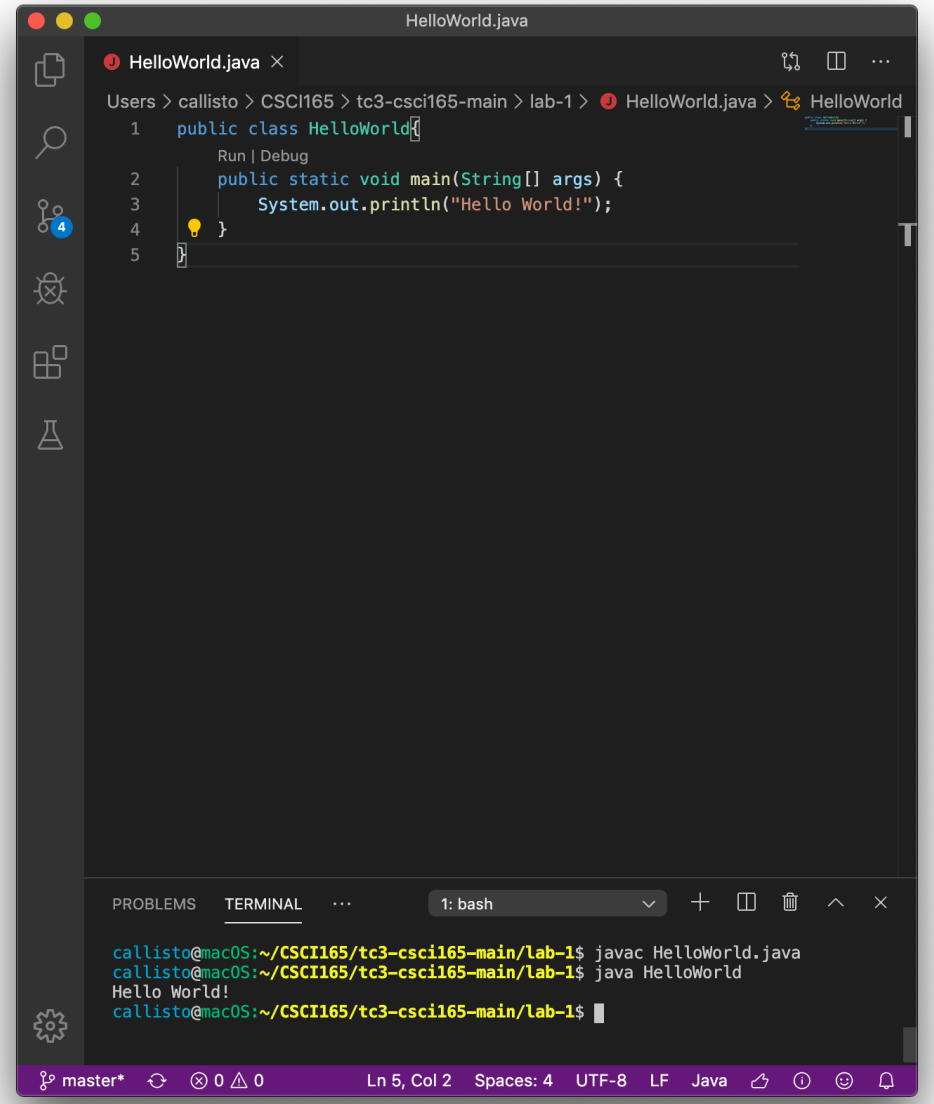


JAVAFX APPLICATION COMPILING:



JAVAFX APPLICATION RUNNING:

HELLO WORLD COMPILED AND RUNNING:



ADDITIONAL PROBLEMS:

1.)
- Initialize a counter at 0
- For every score:
  add it to a sum in memory
  increment the counter
- When the counter is equal to 10, stop adding scores
- Divide sum of scores by 10

2.)
- Initialize a list of all letters [A-Z]
- Initialize a blank string
- For every character in the given word
  get the index of the character in the list, store it in memory
  add 5 to the index
  perform modulus division of 26 on the value
  add the character in the letter list at the index of the value to the blank string

3.)
- “PUZZLES ARE FUN”
- Initialize a list of all letters [A-Z]
- Initialize a blank string
- Get index of the first character in the string, in the list (“S” would become 18)
- Get index of P in the list (18)
- For each character in the given word:
  Check to see if character is a space, if not proceed with remainder of loop
  Get value of index of string character - index of “P” in list (“S” -> 18 - “P” -> 15 = 3)
  Subtract previous value from index value of character
  Perform modulus division of 26 on the value
  Add the character in the letter list at the index of the value to the blank string

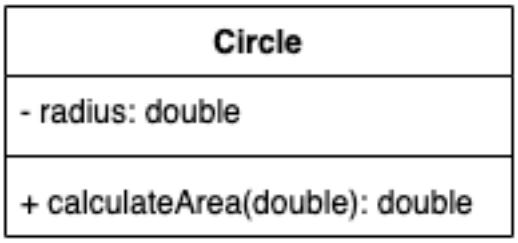
4.)
- Replace single 4-digit number on chalkboard with one 1-digit number and one 3-digit number. The 3-digit number will be used to represent the sum, and the 1-digit number will represent the quantity of assignments.
- For each homework grade given by brother:
  Convert grade to hexadecimal format
  add grade to sum of grades
  set number of grades to quantity + 1, converted to hex
- When finished, divide grade sum by quantity
- Convert result back to decimal

5.)
Note: not all of these are printed to terminal, I just wanted to display the flow of execution
- 15
- 46
- 23
- 70
- 35
- 106
- 53
- 160
- 80
- 40
- 20
- 10
- 5
- 16
- 8
- 4
- 2
- 1 <- result

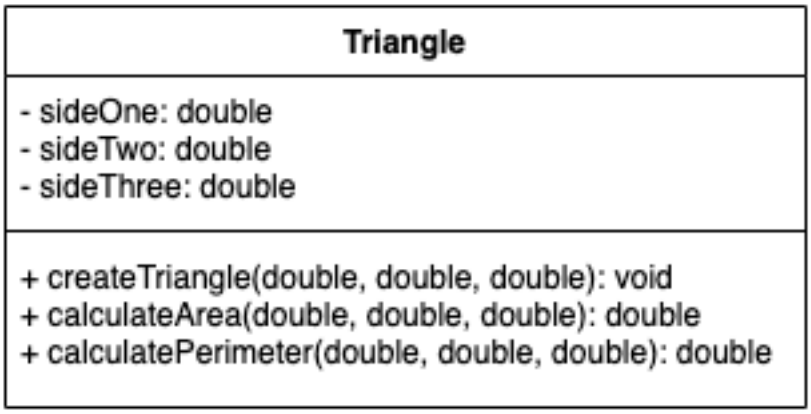
6.) Note: not all of these are printed to terminal, I just wanted to display the flow of execution

- 6
- 3
- 10
- 5
- 16
- 8
- 4
- 2
- 1 <- result

8.)



9.)



10.)

```java
public class Symbols{

    Run | Debug
    public static void main(String[] args) {
        f_shapedThing();
        o_shapedThing();
        x_shapedThing();
    }

    public static void f_shapedThing(){
        for(int i = 5; i > 0; i--){
            for(int j = i; j > 0; j--){
                System.out.print("*");
            }
            System.out.println();
        }
    }

    public static void o_shapedThing(){
        for(int i = 5; i > 0; i--){
            if(i == 5 || i ==1){
                for(int j = 5; j > 0; j--){
                    System.out.print("*");
                }
                System.out.println();
            }
            else{
                for(int k = 5; k > 0; k--){
                    if(k == 5 || k == 1){
                        System.out.print("*");
                    }
                    else{
                        System.out.print(" ");
                    }
                }
            System.out.println();
            }
        }
    }

    public static void x_shapedThing(){
        for(int i = 5; i > 0; i--){
            if(i == 5 || i == 1){
                System.out.println("* * * * *");
            }
            else if(i == 4 || i == 2){
                System.out.println("  * * * ");
            }
            else{
                System.out.println("   * *  ");
            }
        }
    }
}
```

```
callisto@macOS:~/CSCI165/tc3-csci165-main/lab-1$ java Symbols.java
*****
****
***
**
*
*****
*   *
*   *
*   *
*****
* * * * *
  * * *
   * *
  * * *
* * * * *
```