CS110 – Spring	2012
Problem Set 6	(Due Tuesday 4/24. Put in Dropbox or bring a hardcopy to class.)
Name:	

## **String Manipulation**

1) (18 pts) Write a program that splits the numbers in the given myNums String, converts them to floats, and prints them to the console.

```
void setup() {
   String myNums = "1.2, 2.3, 3.4, 4.5, 5.6";

// Add your code here
}
```

2) (18 pts) Finish the following program, which was designed to count and print the number of duplicate Strings in the myArray String array.

```
// Count and print the number of duplicate strings in myArray
String [] myArray = {"A", "B", "C", "D", "A", "F", "C"};

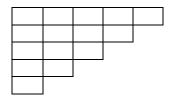
void setup() {
  int count = 0;

  // Add code here

  println("There are " + count + " duplicates.");
}
```

## **Functions and Multidimensional Arrays**

- 3) (10 pts) Write a function frac that takes an two integers, a numerator and a denominator, and returns a float which is the corresponding fraction. For example: println(frac(1, 4)); will print 0.25.
- 4) (18 pts) Write a program that declares a 2D ragged float array that matches the following triangular shape and fills it with random numbers.



## Recursion

5) (18 pts) Add a recursive function named recursiveDigitSum () to the following program. The new function should compute and returns the sum of the digits in a string myDigits.

```
void setup() {
   String myDigits = "123456789";
   println( recursiveDigitSum( myDigits ) );
}
```

## **ArrayLists**

6) (18 pts) Write a short program that (i) creates an ArrayList, (ii) adds to the ArrayList the numbers 0 through 9, (iii) then removes the odd numbers, and (iv) prints out all remaining items in the ArrayList.