CIS 200: Fundamentals of Software Design Exam 2 (50 points)

Practice Exam

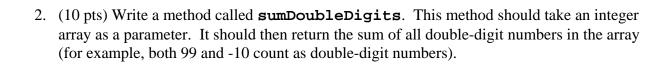
You may use \underline{one} 8.5"x11" page of $\underline{handwritten}$ notes, but no books, computers, calculators, or cell phones on the exam. Please do your own work.		
Name:		
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Lab section (day and time):		

EXAM SCORE:	
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- 1. (6 pts) Consider the following questions about arrays.
 - a) (2 pts) Declare a two-dimensional array of character values with 3 rows and 2 columns. You may call the array anything you like.

b) (4 pts) Initialize the appropriate spots in the array to make the array look like this:

ʻa'	'A'
'b'	'В'
'c'	·C'



3. (4 pts) Suppose you are in the same class as the **sumDoubleDigits** method. Further suppose that an integer array called **values** has been declared and filled with values. Finally, suppose an integer variable called **answer** has been declared. Write ONE line of code that stores the sum of the double digit elements in **values** in the **answer** variable.

4. (10 pts) Suppose **numbers.txt** is an input file that contains several numbers with decimals, one per line. It might look like this:

3.42 17.0 47.151

Write a code fragment that reads every line in the file, and prints the decimal portion of each number to an output file called **afterDecimal.txt**. For the example above, the resulting **afterDecimal.txt** file should look like this:

42 0 151

Do not assume that there are only three lines in the file – your code should work no matter how many lines there are.

5. (8 pts) Consider the following full Java program. When this program runs, what is printed?

```
public class Exam {
     public static void main(String[] args) {
          System.out.println("main");
          int[] arr = {1,2,3,4};
          int val = 10;
          int result = second(arr, val);
          System.out.println(val);
          System.out.println(result);
          System.out.println(arr[0]);
     }
     public static void first(int[] list) {
          System.out.println("first");
          list[0] = 4;
     }
     public static int second(int[] nums, int x) {
          System.out.println("second");
          first(nums);
          System.out.println("middle of second");
          x = 7;
          return nums[0]+x;
     }
}
```

6. (4 pts) Consider the following statements. What is printed?

```
String example = "problem3onexam";
System.out.println(example.substring(9));
System.out.println(4 + 5 + example.substring(7,8) + 9);
System.out.println(example.charAt(3)+example.substring(5,8));
```

7. (8 pts) We would like to be able to call a **multiply** method like this:

```
int times = multiply(4.6, 3.2);
```

and have times hold 14.72 (which is 4.6 times 3.2). In general, we'd like to be able to pass two numbers and get back their product. Write the method multiply that satisfies those criteria.