PTest – Strings and Loops

Name__________________________

Date_____________________Per___

1. Use the following code to fill in the blanks for returned values and data types. If there is an error, indicate the specific kind of error.

```
String meal = "Good Eat";
String traditions = "Watch some football.";
String guests = "Family and Friends";
```

	Returned Value	Data Type
(a) traditions.substring (9)	______________	______________
(b) meal.toUpperCase()	______________	______________
(c) guests.lastIndexOf("i")	______________	______________
(d) traditions.substring(2, 8).charAt(3)	______________	______________
(e) guests.indexOf(meal.substring(6, 7))	______________	______________
(f) traditions.charAt(meal.length())	______________	______________
(g) meal.length()	______________	______________
(h) meal.endsWith("ats")	______________	______________
(i) guests.indexOf('a', 4)	______________	______________
(j) guests.lastIndexOf('e')	______________	______________

2. Answer the following questions about the program fragment below. These questions involve Strings and Objects.

```
String entree = new String ("tofurkey");
String side = "salad";
entree = "turkey";
String dessert;
entree = side;
String extra = entrée + side;
dessert = "pie";
```

(a) What is the initial value of each of these when they are first declared?

entree = ___________ side = ___________ dessert = ___________ extra = ___________

(b) What is the final value of each of these at the end of the fragment?

entree = ___________ side = ___________ dessert = ___________ extra = ___________

(c) How many objects were created? ____ How many are still accessible at the end of the fragment? ____

(d) At the end of the fragment, is there any garbage? ____ If so, what is it? __________________

(e) At the end of the fragment, are there any identifiers pointing to the same object? ____

If so, what are they? ____________________

4. Phone books show phone numbers under alphabetized last names. Write a program that will accept three lines of String data, then provide the output as shown below, indicating what the number will be alphabetized under, the name in the format last, first, and the phone number including an area code. You may assume that all user names to be input will be first then last (no middle names or initials). For your program, (650) area codes apply to Mountain View and Palo Alto, and (408) area codes apply to Cupertino and San Jose. Don't worry about cities other than these. Your program should be complete, but concise, and does not require loops. **Hint: find the space, or " ", after the first name to help you locate the start of the last name.**

Sample run output (user input shown in bold):

```
% java PhoneBook
Enter name as first last: John Adams
Enter city of residence: Mountain View
Enter phone number (without area code): 123-4567

The phone number will be alphabetized under A, under Adams, John at (650) 123-4567.
%
```

```
import java.util.Scanner;

public class PhoneBook
{       private String name, city, phone;
        private int areacode;

        public PhoneBook ( )
        {       name = new String ( "Thomas Jefferson" );       // Default values,
                city = new String ( "New York" );               // to be changed
                phone = new String ( "123-4567" );              // within the methods
        }

        public static void main ( String [] args )
        {       PhoneBook book = new PhoneBook ( );
                book.getInput ( );
                book.processInputAndPrint ( );
        }

        public void getInput ( )
        {
        }
        public void processInputAndPrint()
        {

        }
}
```