

CS 180 Problem Solving and OO Programming

Fall 2011

Recitation Week 8. October 13-14, 2011

Problem 1:

(a) Explain what each of the following declarations mean.

(i) `int [][] a= new int [10][10];`

(ii) `int [][] a={{1, 2, 3}, {4, 5, 6}};`

(b) What will the following code print? Error?

```
int [] a={1, 2, 3}; int [] b={4, 5};

b=a;

for (int i=0;i<b.length; i++){
    System.out.println(a[i]);
}

for (int i=0;i<b.length; i++){
    System.out.println(b[i]);
}
```

c) What will the following code print? Error?

```
int [] a={1, 2, 3};

for (int i=0;i<b.length; i++){
    System.out.println(a[i]);
}

System.out.println(b[i]);
```

Problem 2:

Write a Java program that creates two arrays of 100 randomly generated integers in the range 0 to 9 (both inclusive). It then finds and prints out, for each array, the number of integers less than or equal to 5.

Problem 3:

Write a Java program that performs the following tasks.

1. Opens a file named `grades.txt`. If the file does not exist then the program announces an error and exits, otherwise it continues.

2. The `grades.txt` file contains student grades on an exam in the following format, one entry per line:

`userId grade`

where the `userId` is a string of characters without any space and the `grade` is a number between 0 and 100 (inclusive). The `userId` and the `grade` are separated by one or more spaces.

The program reads the data from the input file and save it in two arrays named `userId` and `grade`. Thus, after all data is read from the file, `userId[i]` will contain the `userId` of the i^{th} student and `grade[i]` will contain this student's grade.

3. Computes the average grade.
4. Finds the number of students who received a grade of 100.
5. Prints the average grade and a count of the students who received 100 on the exam.

Assume that the class has at most 300 students.

<End of Problems for Week 8>