

Arrays

Recitation – 10/(9,10)/2008

CS 180

Department of Computer Science,
Purdue University



Project 5

- Now posted on the class webpage.
- Due Wed, Oct. 22 at 10 pm.
- Milestone Due Wed, Oct. 15 at 10 pm.
- Start early. **All questions on the class newsgroup.**
- There will be no consulting hours next Monday due to October Break.
- There will still be consulting hours next Tuesday and Wednesday.

Study Group

- Time changed due to October Break
- Thursday 5:30pm~7:30pm **only** next week
- In LWSN B116
- Also announced on the newsgroup

Task of This Recitation

- Review the materials about arrays
- Review some exam questions which troubled the majority of you

Array: Special Kind of Object

- Collection of variables of same type
- Similar to String
 - Also start from index 0
 - Both references
 - String can be regarded as a kind of enhanced array composed of characters
- Different from String
 - Do not have methods like those of String
 - `.length` for arrays and `.length()` for Strings
 - Do not have an `equals()` method

Array: Special Kind of Object

- Example

```
double[] temperature = new double[7];  
Automobile myCar = new Automobile("Honda");
```

- Get a storage area and makes the variable reference the beginning of the storage area

- Array vs. String

```
char[] name = {'D', 'a', 'v', 'i', 'd'};  
String name = new String("David");
```

```
char[] name = new char[200];  
String name = ??
```

Scope & Garbage Collection

- Variables have their scopes.
- What are the three kinds of scopes?
- In what conditions will a variable never be used again?
- Where do these variables go then?
- They are collected as garbage...
- More precisely, the spaces they occupy are freed and can accept new variables.

Scope & Garbage Collection

- Example with an array

```
public static void main (String [] args) {  
    ...  
    double [] averageScore =  
        getArrayOfAverages(firstScore, nextScore);  
    ...  
}  
public static double [] getArrayOfAverages (...) {  
    double [] temp = ...  
    ...  
    return temp;  
}
```

- Why is **temp** not collected?

Scope & Garbage Collection

- It will still be used!
- The reference `temp` is actually collected but not the array it references.
- Now `averageScore` references the array.
- This is the same for objects.
- Remember arrays are special objects.

Exam Review

- Explain some multiple choice questions (2, 6, 13, 18)
- [Link to the class website](#)
- If you have problems about programming questions, please have a look at the solutions posted on the website first.
- Please check your grades (exam, lab, project) on the Black Board system. If you cannot see grades there, you can mail your problem to our course coordinator.