

ISE 208 Midterm Exam 2

SBCS Practice Version

Fall 2009

NAME (please print legibly): _____

Your University ID Number: _____

- Please leave at least one seat between yourself and the person next to you.
- No books or notes can be used during the exam, except for your “cheat sheet”.
- Any **CHEATING** will result in an F as well as being written-up on academic dishonesty.

NO BS bonus: If you do not know the answer to a problem and leave it blank you will receive 1 point for each sub-part (e.g., a,b,c, etc.) that you leave blank. If you write anything in the space and it is wrong, you will receive a zero. Not all questions are of equal difficulty/points value, so read through the entire exam before beginning!

You will not lose any points for small coding details such as misspelling a method name, leaving out some default method arguments, or getting the order of method arguments wrong.

QUESTION	VALUE	SCORE
1	9	
2	15	
3	6	
4	10	
5	10	
6	5	
7	5	
TOTAL	60	

1. (9 points)

Write a method that uses recursion to count the number of times a specific character occurs in an array of characters.

2. (15 points)

Use the following class definitions and variable declarations to answer the question that follows.

```
public class Weather
{
    // other methods omitted
    public void report ()
    {
        System.out.println("No Warnings or watches.");
    }
}
```

```
public class HighWind extends Weather
{
    // other methods omitted
    public void report ()
    {
        System.out.println("Wind Advisory.");
    }
}
```

```
public class StormWatch extends Weather
{
    // other methods omitted
}
```

```
public class TornadoWarning extends StormWatch
{
    // other methods omitted
    public void report ()
    {
        System.out.println("TORNADO WARNING!!");
    }
}
```

```
public class MyWarning
{
    public TornadoWarning bigWind;
    // other methods omitted
}
```

```
public Weather w;
public HighWind hw;
public StormWatch sWatch;
public TornadoWarning tWarn;
public MyWarning warn;
```

Which of the following assignment instructions are valid? List **ALL** of the correct answers!

- (a) `w = hw;`
- (b) `w = sWatch;`
- (c) `sWatch = warn;`
- (d) `warn = tWarn;`
- (e) `tWarn = hw;`
- (f) `warn.bigWind = tWarn;`
- (g) `tWarn = warn.bigWind;`
- (h) `w = warn.bigWind;`

ANSWER: _____

3. (6 points)

Look at the following code, which is the first line of a class definition:

```
public class Tiger extends Felis
```

In what order will the class constructors execute? Why?

4. (10 points)

Describe the difference between `public`, `protected`, and `private`.

5. (10 points) You can think of this code as being “protected” because the application will not halt if it throws an exception: (5 points)

- (a) try block
- (b) catch block
- (c) finally block
- (d) protected block

ANSWER: _____

True or false: When an exception is thrown by code inside a `try` block, the remaining statements in the `try` block are also executed. (5 points)

ANSWER: _____

6. (5 points)

We wish to make the following method handle exceptions:

```
public int getAge() {  
    return this.Age();  
}
```

How would we accomplish this?

(a)

```
throw {  
    public int getAge() {  
        return this.Age();  
    }  
    catch (Exception e) {  
    }  
}
```

(b)

```
try {  
    public int getAge() {  
        return this.Age();  
    }  
    catch (Exception e) {  
    }  
}
```

(c)

```
public int getAge() {  
    throw {  
        return this.Age();  
    }  
    catch (Exception e) {  
    }  
}
```

(d)

```
public int getAge() {  
    try {  
        return this.Age();  
    }  
    catch (Exception e) {  
    } }  
}
```

ANSWER: _____

7. (5 points)

Briefly explain why you might want to use a Java interface instead of normal inheritance.