Computer Science 22: Object Oriented Programming

Lecture #8: Java Programming

About This Lecture

- Method Declarations
- Assignment Statements
- Program Statements
  - Flow Control
    - if-else, else-if, for-loop, while loop, etc.
  - Exception Handling
- The Java API

Method Declaration

```
[access modifiers] [other modifiers]
  returnType methodName ( [pType1 pName1,
  …] )
[throws ExceptionName1, … ] { … }

// access modifiers:    public, private,
//                      protected or none
```

Method Declarations

- Other modifiers:
  - **final** : method cannot be overriden
  - **static** : method is a class method
  - **abstract** : method is undefined – useable only when the class is declared abstract
  - **native** : platform-dependent, method signature only
  - **strictfp** : floating point computation restriction
  - **synchronized** : used in multithreading

Method Declarations

```
public int getX(){
  return anIntExpression;
}

public void doThis(int x, int y)
  throws Exception {
}

abstract float computeArea();
public native int accessPort();
```

Method Declarations

```
public String processSequence(Sequence input)
  throws StringIndexOutOfBoundsException,
  ArrayIndexOutOfBoundsException,
  NullPointerException {
  //…
  return stringExpression;
}
```

Method Calls

```
String a = “Abracadabra”;
//simple:
a.toUpperCase();
String b = a.toLowerCase();

//chained:
a.toLowerCase().substring(5, 8).endsWith(“b”);
```

Assignment Statements

```
// Assumption: the type of expression on
// the right side is the same as type of
// variable on the left side


a = 10;
a++;
a += 1;
```

Java API Specification

http://download.oracle.com/javase/1.4.2/docs/api

Assignment

- Research on how to use labeled **`break`** statements
- Research on how to use labeled **`continue`** statements

**There will be a quiz on these two items next meeting*