ComS 207: Programming I

Instructor: Alexander Stoytchev

http://www.cs.iastate.edu/~alex/classes/2006_Fall_207/

Introduction and First Program

August 21, 2006

ComS 207: Programming I (in Java)
Iowa State University, FALL 2006
Instructor: Alexander Stoytchev

Outline

- **Questionnaire**
- **Class Overview**
- **Syllabus**
- **First Program**

Questionnaire

A silly question

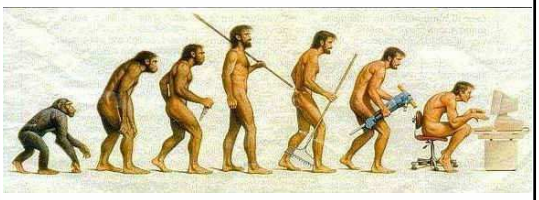
- **How many of you know how to read and write?**

Well, this was not always the case

A silly question

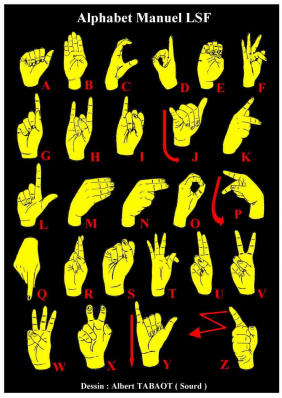
- How many of you know how to ~~read and write~~ program?

Today programming is becoming a required skill for many jobs



Language Acquisition

[http://www.wellroundedkids.com/store/Accessories/wooden%20alphabet%20puzzle.jpg]]



[http://www.usm67.org/alphabet/images/alphabet.jpg]

Java

- A *programming language* specifies the words and symbols that we can use to write a program
- A programming language employs a set of rules that dictate how the words and symbols can be put together to form valid *program statements*
- The Java programming language was created by Sun Microsystems, Inc.
- It was introduced in 1995 and it's popularity has grown quickly since

Reserved Words

- The Java reserved words:

```
abstract    else        int         strictfp
boolean     enum        interface   super
break       extends     long        switch
byte        false       native      synchronized
case        final       new         this
catch       finally     null        throw
char        float       package     throws
class       for         private     transient
const       goto        protected   true
continue    if          public      try
default     implements  return      void
do          import      short       volatile
double      instanceof  static      while
```

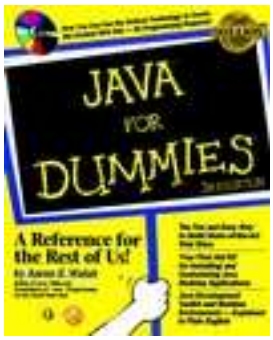

Focus of the Course

- This is an intro to programming class
  (that uses the java programming language)
- The focus is on
  - the logic of programming
  - problem solving
  - program design, implementation, and testing
  - object-oriented concepts
    - classes
    - Objects
    - methods

Focus of the Course

- This class is geared for non-Computer Science majors.
- If your major is CS you should take ComS 208.
- However, this does not mean that this is an easy class…

In other words, this class is NOT



What this class will NOT cover

- We will not go into details of programming GUIs
- We will not cover many of the libraries and classes that ship with the java language
- Currently there are > 2,500 classes in these libraries
- We will not cover some advanced Object-Oriented concepts

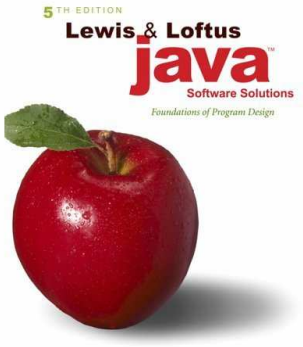
Warning

- Learning how to program takes a lot of time!
- It also requires a lot of patience.
- You cannot learn how to program by just reading a textbook. You have to spend long hours in front of the computer.
- If you want to learn how to program well you will have to take at least 2-3 classes. This class alone is not enough.

Syllabus

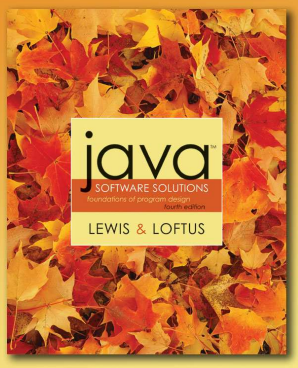
- **Posted on the Class Web Page:**
  - http://www.cs.iastate.edu/~alex/classes/2006_Fall_207/

REQUIRED TEXTBOOK



THE TEXTBOOK from last semester is also OK.

THIS ONE IS NOT OK.



Recitations

- **W 8:00-8:50 IN ATANSFF B0029**
- **W 9:00-9:50 IN ATANSFF B0029**
-
- **W 10:00-10:50 IN GILMAN 1810**

Night Exams

- ~~**Tue. Oct. 17 6:30-7:45 p.m.**~~
- ~~**Wed. Nov. 15 6:30-7:45 p.m.**~~
- **Tue. Sep. 19 6:30-7:45 p.m.**
- **Wed. Nov. 24 6:30-7:45 p.m.**

First Program

Java Program Structure

- In the Java programming language:
  - A program is made up of one or more *classes*
  - A class contains one or more *methods*
  - A method contains program *statements*
- These terms will be explored in detail throughout the course
- A Java application always contains a method called `main`

Java Program Structure

```
//  comments about the class
public class MyProgram
{
   //  comments about the method
   public static void main (String[] args)
   {
      System.out.println("Hello World!");
   }

}
```


Java Program Structure

```
//  comments about the class
public class MyProgram
{
```

class header

class body

Comments can be placed almost anywhere

```
}
```


Java Program Structure

```
//  comments about the class
public class MyProgram
{
   //  comments about the method
   public static void main (String[] args)
   {
```

method header

method body

```
   }

}
```


Java Program Structure

```
//  comments about the class
public class MyProgram
{
   //  comments about the method
   public static void main (String[] args)
   {
      System.out.println("Hello World!");
   }

}
```

Questions/Comments?

THE END