

# CSCI 115 Lecture I

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<http://connex.csc.uvic.ca>

Lectures: A01 MR 11:30 am-12:50 pm HHB 105

Office Hours: M 1:00-2:00 pm ECS 532  
Th 10:00-11:00 am ECS 532

## Objectives for this week:

- Locate the course Connex site: [connex.csc.uvic.ca](http://connex.csc.uvic.ca)
- Write 2 Java programs.
- Locate the Lab (ECS 258) & my office (ECS 532)
- Put 2 Java books on your shelf
- Access Course Web Site
- Review the directions on configuring your own computer

# Welcome to the first session

- Introductions
- Review of Java Fundamentals

## Course Outline:

<http://courses.csc.uvic.ca/courses/2014/spring/csc/115>

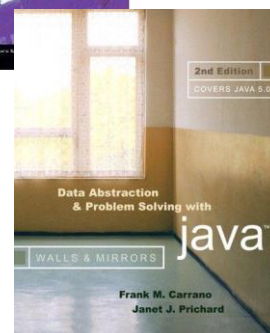
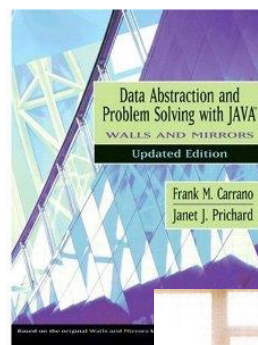
## This course will:

- introduce two fundamental programming concepts: abstract data types and recursion;
- examine and apply these concepts within the context of an object-oriented approach to programming;
- introduce techniques for reasoning about the efficiency of algorithms and data structures;
- study foundational approaches to organizing data and computations.

## Textbook

### Required:

- **Data abstraction and problem solving with Java :walls and mirrors**
- Frank M. Carrano, Janet J. Prichard.



## Overview: CSC 115 Activities

- **Assignments – 6: 4 worth 3% each: total 18%**
- **Midterm –25%:**
  - **February 20 (section A01)**
- **In-lab exercises – 10 @ 0.5% each totaling 5%**
- **Final – 52%**

**Course website for Course Outline:**  
**[connex.csc.uvic.ca](http://connex.csc.uvic.ca)**

## Lab Information

- You **MUST** register in a lab section
- Labs start **NEXT** week  
 (week of January 13, 2014)
- All labs in ECS 258
  - B01 2:30 pm
  - B02 2:30 pm
  - B03 12:30 pm
  - B04 12:30 pm
  - B05 4:30 pm
  - B06 9:30 am
  - B07 9:30 am
  - B08 12:30 pm
  - B09 2:30 pm
  - B10 4:30 pm
  - B11 12:30 pm
  - B12 2:30 pm
  - B13 4:30 pm
  - B14 2:30 pm

## Late Assignments? Missed Lab Attendance?

- No late assignments will be accepted unless prior arrangements have been made with the instructor at least **72** hours before the assignment due date.
- During your registered lab class, you will be asked to record your participation. If **you do not record your participation** during your registered lab, it will **not be logistically possible to recover** the lost 0.5% per week.

## Don't Copy – Know what you're doing!

Cheating, plagiarism and other forms of academic fraud are taken very seriously by both the University and the Department. You should consult <http://web.uvic.ca/calendar/FACS/UnIn/UAR/e/PoAcl.html> for the UVic policy on academic integrity.

## Getting set up with Connex

- CSC Web page is at <http://connex.csc.uvic.ca/>
- Scroll down and click on

ITSupport Information

**[Activate your Computer Science Account](#)** - First year students taking a Computer Science course for the first time and individuals who have been absent from CSc for an extended period of time (+6 months) must activate their CSc Account. New registration data is uploaded to connex daily - please allow up to 24 hrs after activating your CSc account before attempting to log into connex for the first time.

**Update Email Your Address:** To fully participate in connex forums, notifications, and receive assignment notifications from instructors, you must update your preferred email address using the following link: [connex email update](#)

[more support info...](#)

## Your Own Computer System

**NOTE!!!** Everything required by this course can be done on the ECS computers ..... but ..... It is sure nice to be able to use your own computer!

### Recommended Software:

- Before midterm: JDK and a text editor  
(TextPad or Jedit would work)

### Learn more about these:

<http://www.csc.uvic.ca/labspg/15references.html>

- After midterm: an IDE  
(BlueJ or Eclipse would work)

## Are you new to Java?

Tutorials coming (Thursday & Friday):

- 3-5 Thursday ECS 258
- 3-5 Friday ECS 258

Tentative! Book the time, then watch for announcement on Connex & next class.

## To Do before Next Class

- **Get your CSC Account at**  
<http://connex.csc.uvic.ca/>
- Access the Course Web Site
- Print and then *Read* your course outline.
- Make sure you are properly registered in the course, including a lab section.  
(Problems? See Jane Guy ECS 512 [jguy@csc.uvic.ca](mailto:jguy@csc.uvic.ca) )
- Find the following rooms: ECS 258 & ECS 253
- Do as many exercises as possible from the end of Chapter 1.
- (If desired) Determine if your system already has JDK and a text editor.

## Java Fundamentals

- Review of Concepts from Programming I

### Example I

#### – Illustrates Coming Concepts

- Write a Java program that inputs a radius and then calculates and outputs the Area and Circumference of a circle with that radius.
- Also write and call some *static methods*!

```

public class Circle {

    public static final double PI = 3.14159265359;

    public static void main (String[] args) {

        //program entry point

        double radius = 17.3;
        Double radiusObject = radius;

        double circumference = 2*PI*radius;
        double area = PI * radius*radius;

        System.out.println("The circumference is "
                           + circumference);
        System.out.println("The area is " + area);

    }
}

```

Diagram labels pointing to code elements:

- Identifiers: `Circle`
- Constant: `PI`
- Keywords: `public`, `static`, `void`, `main`
- Comment: `//program entry point`
- Variables: `radius`, `radiusObject`, `circumference`, `area`
- Primitive Data Type: `double`
- Assignment with expression: `radiusObject = radius;`
- Wrapper: `Double`

## Primitive Data Types

Category	Data Type	Wrapper Class
Boolean	boolean	Boolean
Character	char	Character
Integer	byte	Byte
	short	Short
	int	Integer
	long	Long
Floating point	float	Float
	double	Double

Primitive data types and corresponding wrapper classes

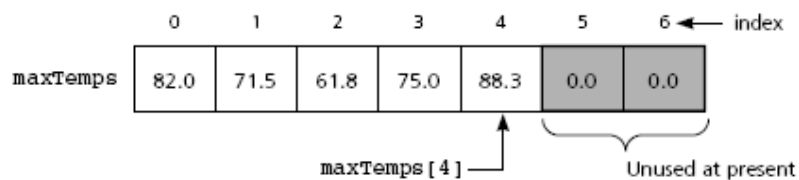


## Example II:

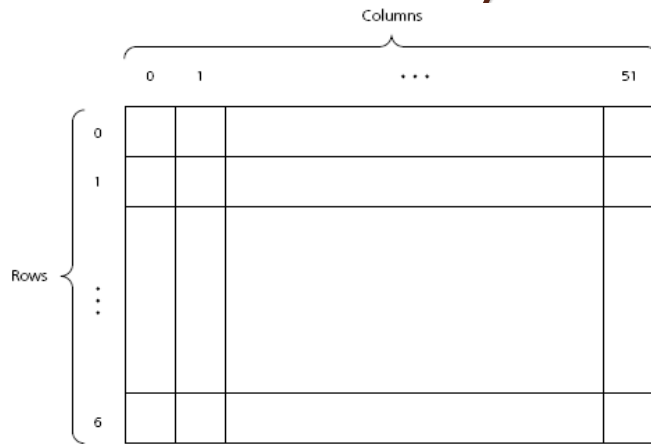
### - Illustrates Arrays

- Write a program that:
  - inputs from a file that contains the following data: 5 temperatures per day for 30 days
  - calculates and outputs the average daily temperature and the daily minimum and maximum temperature
- And be able to pass that array to a method!

## Arrays



## Two-Dimensional Arrays



## Selection Statements

- `if`
- `if/else`
- `Nested if and if/else`
- `selection`

## Iteration Statements

- while
- do/while
- for

Exercise: Convert to while and do/while loops:

```
for(int y=1; y<=5; y++)  
{  
    System.out.println("y is equal to " + y);  
}
```