Information Infrastructure II

INFO I211 – Spring 2014 – Sections 18530 & 22519

Lecture 1 – 2014.01.13

Instructor:
Mitja Hmeljak,
http://mypage.iu.edu/~mitja
mitja@indiana.edu

Information Infrastructure II

Information Infrastructure II

- provides a foundation of distributed applications concepts,
- including their systems architecture,
- for Informatics undergraduate students.

In doing so it introduces advanced programming topics such as

- client-server models
- client-side graphical user interfaces, and
- distributed back-end computing systems

Instructors

Mitja Hmeljak

PhD, Indiana University

Areas: Computer Graphics, Visualization, Music & Audio, VR, Mobile

Email: mitja@indiana.edu

Office location: Undergraduate Annex 203

Office hours: T,R 2–3PM, or by appointment

Other courses I teach this Spring semester:

- INFO-I210
- CSCI-B481

Assistant Instructors

cgosalia@indiana.edu - Chintan Gosalia

debseal@indiana.edu - Debpriya Seal

hpathak@indiana.edu - Harsh Pathak

jjalles@indiana.edu - Jalles Jordan

pauljenk@indiana.edu - Paul Jenkins

rionbr@indiana.edu - Rion Correia

About You (index card)

I211 **2014.01.13 or 2014.01.14**

1. Name, Major, Class Year
2. Why are you taking this course?
3. Do you have any previous programming experience? In what language(s)?
4. Your self-confidence in programming (on a scale 0-10)
5. What are your concerns about this course (if any) ?
6. What would you like to be able to do with a programming language?
7. Do you own a laptop, and would you be willing to bring it to class? (Important!)
8. when did you take I210 (or equivalent)

Course Materials

Guide to Programming with Python
by Michael Dawson
Python 2.x!

Slides, Syllabus, etc. on OnCourse

You will submit your assignments on OnCourse

Grading

- Programming Assignments & Homeworks 40%
  - drop lowest 2 grades
  - in teams (except each homework's 1st problem, which is to be done individually)
  - individual submission
- In-Lab Tasks 20%
  - in teams
  - drop lowest 2 grades
- Lecture Work 20%
  - in teams
  - lecture work include one group presentation
- Programming Project 20%
  - in teams, individual submission
- Midterm (no curve) 10%
  - individual
- Final Exam (no curve) 10%
  - individual

Programming Assignments & Homeworks: Details

The first problem assigned each week is to be done individually.

The rest of the problems are to be done with your group.

For **each** assignment, you must each turn in a filled-out copy of the Homework Team Feedback Form. Those who don't turn in a filled-out (not empty!)

The evaluation of your teammates will affect your grade for group portions – part of the assignment is to work as a team!!!

Assignments - Programming Project: Details

I211 Programming Project:

- multiuser game: simple server-side logic and game admin
- developed in teamwork with B481 students:
  one I211 group + one B481 student (it's a smaller class) per team
- I211 students will program the server-side game logic and HTML/Javascript-based game admin controls
  B481 students will program the client-side graphics in OpenGL ES

PLTL

Peer Led Team Learning

2 sessions per week

Earn 1 lecture work point for each session attended
(Max 20 bonus points)

Policies

Incompletes

An incomplete (I) final grade will only be provided by prior arrangement in exceptional circumstances conforming to departmental policy, and only if the bulk of the course work has been completed in passing fashion.

Late Work / Makeups

Assignments will be accepted up to 24 hours late, with a 20% penalty.

In-lab tasks, Lecture work, and Exams will not be accepted late.

Academic Dishonesty

The standard penalty for any form of academic dishonesty in a course is failure of the course. Outside of assigned group work, providing or receiving help or submitting the work of another as your own constitutes academic dishonesty. There are no "small" offenses. Make sure you are familiar with the IU Student Code.

All students are required to know and follow the departmental policies on Academic Integrity, dishonesty, and cheating.

Laptop and Device Use Policy at Lab & Lecture times

Unless specifically instructed, cellphones, mobile devices, tablets &c. will not be necessary.

Kindly switch them off (or put them in "airplane mode") and refrain from using them during lecture & lab time, unless specifically requested by instructors. This includes the use of

Unrequested use of mobile devices during lab & lecture times will result in missing attendance for that entire lab or lecture period (with the consequences outlined in the course syllabus).

Laptop computer use at lecture and lab times, and STC lab computer use at lab times, is intended solely for course-related work, e.g. programming assignments etc.

Group / Team Work

In lecture and lab, we will have group/team work – kindly ensure that you sit next to your team members. The groups will be posted on Oncourse.

We'll do group programming exercises during lecture.

If you have one, you might want to get a secure-shell (ssh/sftp) client working on your laptop.

The Internet ==? The Web

- TCP-IP (the lowest levels)
- Clients and Servers
- Content Management Systems
- The Cloud
- Distributed Systems

Servers: Unix, Linux & co.

https://itaccounts.iu.edu

"The Account Management Service is designed to help Indiana University students, faculty, staff, affiliates, and guests create and manage their computing accounts and passphrases. Select an option below to begin using the AMS."

Check your IU computing account access availability.

Servers: Unix, Linux & co.

"big iron" machines: Unix or Linux?

Linux & Unix at IU

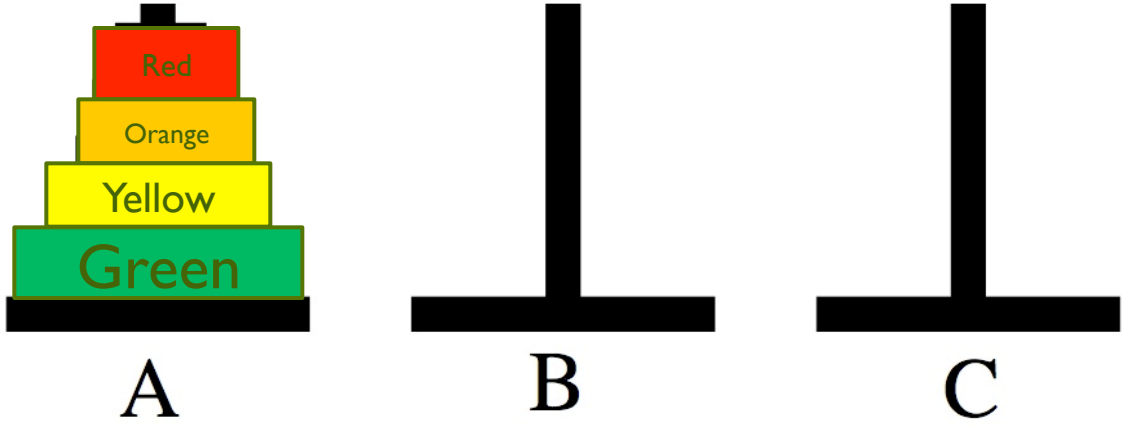
At IU, what is the Burrow?

http://kb.iu.edu/data/acfz.html

At IU, how do I get support for Linux or Unix?

http://kb.iu.edu/data/beqc.html

Group Work 1: Peg Puzzle *(remember?)*



How would you design a Peg Puzzle game as a Distributed Application?

Group Work: Peg Puzzle

This is NOT what we're looking for (part 1) :

1. Make the legal move between pegs A and B
2. Make the legal move between pegs A and C
3. Make the legal move between pegs B and C
4. If not done, return to step 1.

…

Group Work: Peg Puzzle

This is NOT what we're looking for (part 2) :

1. Move the smallest piece to the right, wrapping around if needed.
2. Make the only legal move that doesn't involve the smallest piece.
3. If not done, return to step 1

Python for I211 – Spring 2014

You *do not need* Python up on your home computer or laptop!

You *do need* to be able to login to *silo.soic.indiana.edu* or to *quarry.uits.indiana.edu*.

- Once on *silo.soic.indiana.edu* or *quarry.uits.indiana.edu*, check: are you using the right version of Python? (2.x)

Python for I211 – Spring 2014

Important Documentation from the SoIC Help Desk:

Read the School of Informatics and Computing Knowledge Base documents about available Linux systems.

SoIC Help - What Linux systems are available?

SoIC Help - Available Systems - Remote Use

Important Documentation from the UITS IU Knowledge Base:

Read the

University Information Technology Services (UITS) at Indiana University - Knowledge Base documents about ssh connections and ssh software.

UITS IU Knowledge Base - What are SSH and SSH2?

At IU, what SSH/SFTP clients are supported and where can I get them?

Try the following:

Use *putty* or *ssh* to login to either Quarry, the Burrow, or Mercury systems.

Edit a simple Python 2.x file using *pico* or *emacs*.

then run it by typing: "python test.py"