CSE 21
Intro to Computing II

Lecture 1 – General Course Information

Review of CSE 20

CSE 21: Fall 2016

- Lecturer
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  - Office Room: AOA 126
  - Office Hours:
    - M 2:00-3:50pm
    - T/R 9:00-10:50am
    - By appointment
- TA
  - Mina Naghshnejad
  - Abhineet Dubey,
- All email inquiries received before 5pm during school days will be replied within 48 hours
  - Please follow the guidelines below for proper email communications
    - https://cms.cerritos.edu/uploads/ifalcon/How_to_Email_your_Professor.pdf

Course Overview

- CatCourses
  - Check regularly for announcements and lecture slides.
  - Labs & Project Assignments will be posted and submitted there.
  - Grades for assignments will also be found there (secure).
- 1 Lecture and 1 Lab per week
- 1 Mid-term exam (October 19, tentative)
- Final exam (December 10)
- 13 lab assignments
- 2 programming projects

Course Material

- Text Book:
  - Programming in Java by Zyante
    - Sign up at zyBooks.com
    - Enter zyBook code: UCMERCEDCSE21Fall2016
    - You will be asked to do some of the exercises in the text as part of your reading assignment.

Grading

- Participation: 8%
- Lab assignments: 30%
- Projects: 12%
- Mid-term: 20%
- Final exam (comprehensive): 30%

Lab Rules

- Attendance is mandatory
  - Participation grade is directly from physical presence during lab hours.
- Must show TA your lab before you can leave
  - Easy to grade after since everyone gets it right.
  - Give you a chance to change your answers.
- Submit on CatCourses before the deadline
  - Can resubmit for full credit if original is before deadline.
  - Have one week to resubmit.
  - We will try to return your scores asap after deadline.

Project Rules

- 1 – 2 students per group
- All group members must submit their own solution in their CatCourses account
- Should be done outside of lab session hours unless you have completed the lab assignment already
- Also have submission deadline and resubmission one week after to give you a chance to correct your code

Exams

- 50% of the course grade
  - Midterm 20%
  - Final 30%
- Open Notes
  - No electronic devices
- Practice Exams
  - For both midterm and final
  - Actual exam will follow the same format and order
  - Expect you to study hard so each problem will be harder on the actual exam

Hints for success

- Attend lecture
- Read the textbook
- Do & understand the labs and homework YOURSELF
- Create a portfolio to save all your work
- Take notes while reading and in lecture
- Ask questions

Policies

- Don’t copy someone else’s code
- Don’t give your code away
- Don’t outsource your assignments
- Don’t use electronic devices in exams
- Don’t use electronic devices during lecture for purposes other than note taking
- Turn off speakers/cellphone during class

No Cheating!

- Communicating information to another student during examination.
- Knowingly allowing another student to copy one's work.
- Offering another person's work as one's own.
- I am serious!

About me

- Originally from Hong Kong
- B.S. degree at the University of Wisconsin, Madison
- M.S. degree at the California State University, Fresno
- PhD. at UCM
- Research interests: computer vision/image processing

About you

- Did you take any computer classes before?
  - When did you take CSE20?
- What computer you use?
  - Windows
  - Mac
  - Linux
  - Android
- Programming languages?
  - Java, Python, HTML, Perl/CGI, C, C++…
- What's your major?

Review of CSE 20

- Problem Statement
  - We want to survey the type of hair care products that students use. It will ask for a sample size and inquire for each person whether they use shampoo, conditioner or combined. It should report a breakdown of the data upon request.

Class Object

```
public class Hygiene {

    public static void main(String[] args) {


    }


}
```

What's the first thing?

- Get input from user
  - Scanner

Scanner

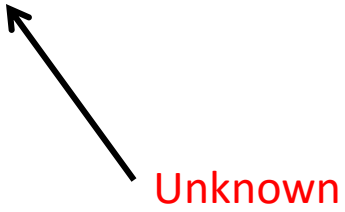
```
public class Hygiene {

    public static void main(String[] args) {

        Scanner input = new Scanner(System.in);

    }

}
```



Import Class

```
import java.util.Scanner;

public class Hygiene {

    public static void main(String[] args) {

        Scanner input = new Scanner(System.in);

    }

}
```

Steps

- Get input from user
  - Scanner
  - Sample size

Get # of students

```
import java.util.Scanner;
public class Hygiene {
        public static void main(String[] args) {
                Scanner input = new Scanner(System.in);
                System.out.print("Enter how many students: ");
                int max = input.nextInt();
        }
}
```

Steps

- Get input from user
  - Scanner
  - Sample size
- Get samples

Get Sample

- Ask to choose which one they use
  - Print
    - 1 for Shampoo
    - 2 for Conditioner
    - 3 for Combined
    - 4 for nothing
- Tally counter
  - if choice is
    - 1, shampoo++
    - 2, conditioner++
    - 3, shampoo++, conditioner++

Tally counter code

```
if (choice == 1)
        shampoo++;
else if (choice == 2)
        conditioner++;
else if (choice == 3) {
        shampoo++;
        conditioner++;
} else if (choice == 4)
        dirty++;
else
        System.out.println(“Enter the right number!”);
```

Putting it together

```
import java.util.Scanner;

public class Hygiene {

        public static void main(String[] args) {

                Scanner input = new Scanner(System.in);

                System.out.print("Enter how many students: ");

                int max = input.nextInt();
                int shampoo, conditioner, dirty, choice;
                shampoo = conditioner = dirty = choice = 0;
                if (choice == 1)
                    shampoo++;
                else if (choice == 2)
                    conditioner++;
                else if (choice == 3) {
                    shampoo++;
                    conditioner++;
                } else
                    dirty++;

        }

}
```

Steps

- Get input from user
  - Scanner
  - Sample size
- Get samples
  - for each person
    - gather info
    - tally

Repeat for each student

```
System.out.print("Enter choice of use: ");
choice = input.nextInt();
if (choice == 1)
        shampoo++;
else if (choice == 2)
        conditioner++;
else if (choice == 3) {
        shampoo++;
        conditioner++;
} else
        dirty++;
System.out.print("Enter choice of use: ");
choice = input.nextInt();
if (choice == 1)
        shampoo++;
else if (choice == 2)
        conditioner++;
else if (choice == 3) {
        shampoo++;
        conditioner++;
} else
        dirty++;
```

```
System.out.print("Enter choice of use: ");
choice = input.nextInt();
if (choice == 1)
        shampoo++;
else if (choice == 2)
        conditioner++;
else if (choice == 3) {
        shampoo++;
        conditioner++;
} else
        dirty++;
System.out.print("Enter choice of use: ");
choice = input.nextInt();
if (choice == 1)
        shampoo++;
else if (choice == 2)
        conditioner++;
else if (choice == 3) {
        shampoo++;
        conditioner++;
} else
        dirty++;
```

Too many people?

Looping

```
for (int i = 0; i < max; i++) {
System.out.print("Enter choice of use: ");
choice = input.nextInt();
if (choice == 1)
        shampoo++;
else if (choice == 2)
        conditioner++;
else if (choice == 3) {
        shampoo++;
        conditioner++;
} else
        dirty++;
}
```

Steps

- Get input from user
  - Scanner
  - Sample size
- Get samples
  - for each person
    - gather info
    - tally
- Output

Output

```
System.out.print("See detailed count? Yes (1) or no (0): ");
int detailed = input.nextInt();
if (detailed == 1) {
        System.out.println("Shampoo = " + shampoo);
        System.out.println("Conditioner = " + conditioner);
        System.out.println("None users = " + dirty);
}
```

Final Code

```
import java.util.Scanner;

public class Hygiene {

        public static void main(String[] args) {
                Scanner input = new Scanner(System.in);
                System.out.print("Enter how many students: ");
                int max = input.nextInt();
                int shampoo, conditioner, dirty, choice;
                shampoo = conditioner = dirty = choice = 0;
                choice = input.nextInt();

                for (int i = 0; i < max; i++) {
                        System.out.print("Enter choice of use: ");
                        choice = input.nextInt();
                        if (choice == 1)
                                shampoo++;
                        else if (choice == 2)
                                conditioner++;
                        else if (choice == 3) {
                                shampoo++;
                                conditioner++;
                        } else
                                dirty++;
                }

                System.out.print("See detailed count? yes (1) or no (0): ");
                int detailed = input.nextInt();
                if (detailed == 1) {
                                System.out.println("Shampoo = " + shampoo);
                                System.out.println("Conditioner = " + conditioner);
                                System.out.println("None users = " + dirty);
                }
        }
}
```

Problem Statement

- We want to survey the type of hair care products that students use. It will ask for a sample size and inquire for each person whether they use shampoo, conditioner or combined. It should report a breakdown of the data upon request.
- We want to keep track of all entries now.
  - By using an array!

Get # of students

```
import java.util.Scanner;
public class HygieneRecord {
        public static void main(String[] args) {
                Scanner input = new Scanner(System.in);
                System.out.print("Enter how many students: ");
                int max = input.nextInt();
                int choices[] = new int[max];
        }
}
```

choices

[0]	[1]	[2]	[3]	[4]	…	…	…	…	[max-1]

Looping

```
for (int i = 0; i < max; i++) {
        System.out.print("Enter choice
                                of  use: ");
        choice = input.nextInt();
        if (choice == 1)
                shampoo++;
        else if (choice == 2)
                conditioner++;
        else if (choice == 3) {
                shampoo++;
                conditioner++;
        } else
                dirty++;
}
```

```
for (int i = 0; i < max; i++) {
        System.out.print("Enter choice
                                of  use: ");
        choices[i] = input.nextInt();
        if (choices[i] == 1)
                shampoo++;
        else if (choices[i] == 2)
                conditioner++;
        else if (choices[i] == 3) {
                shampoo++;
                conditioner++;
        } else
                dirty++;
}
```

What if?

- Want to count shampoo but no conditioner users

Count Shampoo

```
int i;
int shampooOnly = 0;
for (i = 0; i < choices.length; i++) {
        if (choices[i] == 1)
                shampooOnly++;
}
```

What if?

- Want to see if there are any combo users

Combo

```
boolean bothUse = false;
for (i = 0; i < choices.length; i++) {
        if (choices[i] == 3) {
        bothUse = true;
        break; // Just need one person
        }
}
if (!bothUse)
        System.out.println("No Combo users!");
```

Reading assignment

- Reading assignment
  - Chapter 6.1 to 6.5 of textbook
- Lab 1 starts next week (8/29)