CSE8A Lecture 2

• Check the class web page (and discussion board, linked from webpage) for news and info:

  cse8awinter13.weebly.com

• Lab starts 1/15/13. Discussion start week 1. Tutor hours start Wed 1/9/13.

• TODO:
  – Find a programming partner for PSA1 (due Monday 1/14/13 midnight)
  – For next class: 3.5-3.6, 4.1-4.2.

CLICKERS OUT!
• You MUST show up to YOUR lab (the one you’re enrolled in) on time (or early)
  – It’s a 40 minute sprint… (then a 10 min quiz)
  – If you show up more than 5 minutes late or to the wrong section you will lose all your participation points.
  – Lab is in B240 (BASEMENT, elevator or outside entrance – no stairs from 1st floor)
Pair Programming

• Pair programming
  – Everyone must pair. If you have truly extenuating circumstances, see me in office hours or email me.

• Who will I pair with?
  – Partners
    • Find a partner after class or post on the Discussion forum
    • Work with your assigned lab partner
  – Meet with him/her and block out 6 hours a week you are available to work together in the lab.
    • If your schedules aren’t compatible, find another partner!

• What is pair programming?
  – See the class web page (link from home page)! Practice in 8AL lab.
Today in CSE 8A

Chapters 2 and 3 (up to 50)
CLICKERS OUT
What does this code draw?

```java
World world1 = new World(200, 100);
Turtle maria = new Turtle(100, 50, world1);
maria.forward(25);
maria.turnLeft();
maria.forward(50);
maria.turnRight();
maria.forward(25);
```

Hint: Turtles start facing “up”

1) SOLO VOTE (1 min)
2) Discuss in team (2 min)
3) GROUP VOTE (30 sec)

A

B

C

D
World world1 = new World(200,100);
Turtle maria = new Turtle(100, 50, world1);
maria.forward(25);
maria.turnLeft();
maria.forward(50);
maria.turnRight();
maria.forward(25);

Vs.

World world1 = new World(200,100);
Turtle maria = new Turtle(100, 50, world1);
maria.forward(25);
maria.forward(50);
maria.turnLeft();
maria.turnRight();
maria.forward(25);
What does this code output?

World world1 = new World(200, 100);
Turtle maria = new Turtle(100, 50, world1);
maria.forward(25);
maria.forward(50);
maria.turnLeft();
maria.turnRight();
maria.forward(25);

Hint: Turtles start facing “up”
CS Concept: Sequential Execution

World world1 = new World(200, 100);
Turtle maria = new Turtle(100, 50, world1);
maria.forward(25);
maria.turnLeft();
maria.forward(50);
maria.turnRight();
maria.forward(25);

Vs.

World world1 = new World(200, 100);
Turtle maria = new Turtle(100, 50, world1);
maria.forward(25);
maria.forward(50);
maria.turnLeft();
maria.turnRight();
maria.forward(25);

ORDER MATTERS!
How many objects are created in this code?

```java
World world1 = new World(200,100);
Turtle maria = new Turtle(25, 25, world1);
Turtle jose = new Turtle(100, 50, world1);
maria.forward(25);
jose.forward(10);
maria.turnLeft();
maria.forward(50);
jose.forward(5);
```

A. 1  
B. 2  
C. 3  
D. 4
What does this code output?

```java
World world1 = new World(200, 100);
Turtle maria = new Turtle(25, 25, world1);
Turtle jose = new Turtle(100, 50, world1);
maria.forward(25);
jose.forward(10);
maria.turnLeft();
maria.forward(50);
jose.forward(5);
```

Hint: Turtles start facing “up”
CS Concept: Objects

“Give me a new object, please”

Turtle maria = new Turtle(25, 25, world1);

What kind of object

A variable that refers to the object

The code that creates the object (constructor)
CS Concept: Objects

Turtle maria = new Turtle(25, 25, world1);
Turtle jose = new Turtle(100, 50, world1);

Two different turtles objects (instances of class Turtle) with the same capabilities
Other important Turtle methods (know these)

- turn
- penUp
- penDown
- show
- hide
- moveTo
- setName
- getName

http://www.cs.duke.edu/courses/fall06/cps001/doc/mediaClasses/SimpleTurtle.html
What is the output of this code?

```java
int x = 3;
int y = 2;
int z = 2;
System.out.println(x == 3);
z = x + y;
System.out.println(y);
```

A) 3       B) true
   5         5

C) 3       D) true
   2         2

E) None of the above.
What is the output of this code?

```java
int x = 3;
Turtle y = 2;
System.out.println(x == 3);
int z = x + y;
System.out.println(z);
```

A) 3  B) true  C) 3  D) true  E) None of the above.
CS Concepts: Data Types and Assignment

int x = 3;

declared type must match assigned data

Turtle y = new Turtle(myWorld);

Declaration and assignment on separate lines OK:

Turtle y;
y = new Turtle(myWorld);

Reassignment (without redeclaration) OK, even if variable is on RHS!

int x = 3;
x = x + 1;

In java, all variables have an explicit type!
What does this code draw?

World world1 = new World(200, 100);
Turtle maria = new Turtle(25, 25, world1);
Turtle jose = new Turtle(100, 50, world1);
maria = jose;
maria.forward(50);
jose.turn(90);
jose.forward(50);
World world1 = new World(200, 100);
Turtle maria = new Turtle(25, 25, world1);
Turtle jose = new Turtle(100, 50, world1);
melia = jose;

maria = jose;
TODO

• Find a partner and start on your PSA1

• Check the class web page and discussion board

  http://cse8awinter13.weebly.com/index.html
  https://piazza.com/#winter2013/cse8a

• For next class: read textbook pages Chapter 3.5-3.6, 4.1-4.2 and prepare for reading quiz