

## Lab 3 Feedback

- More difficult problems
- Took off for insufficient testing
- Last warning:
  - In future, will take off for poor naming, style, indentation, comments

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## Syntax/Semantics

- What does the comma do in terms of
  - Syntax
  - Semantics

```
print "The", TEAM, "won", wins, "games"
```

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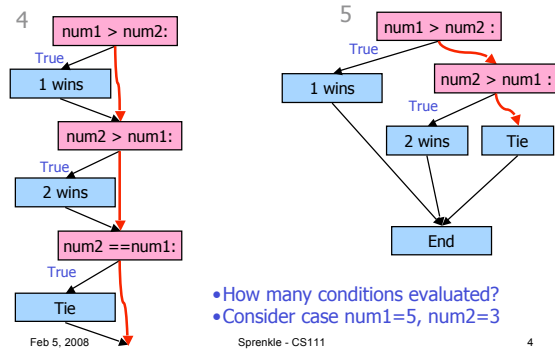
## Example Student Solutions to 1--3

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## Problem 4, 5 Efficiency



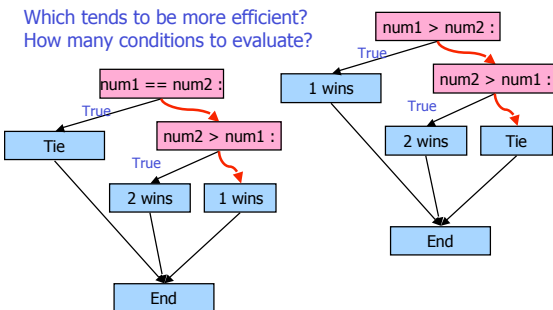
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## Problem 5 Efficiency

Which tends to be more efficient?  
 How many conditions to evaluate?



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## OO Review

- How do we create an instance of a Rectangle?
  - `rect = Rectangle(Point(10,10), Point(30, 40))`
- Draw the rectangle?
  - `win = GraphWin()`
  - `rect.draw(win)`
- Shift the instance of the Rectangle class to the **right** 10 pixels
  - `rect.move(10, 0)`
- What are the x- and y- coordinates of the upper-left corner of the Rectangle now?
  - `upperleft = rect.getP1()`
  - `upperleft.getX(), upperleft.getY()`

upperleft is a Point object

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## OO Hints

- Use API to do work for you
  - Call appropriate methods for the type/class of object
- Keep in mind the type of the object that you're dealing with

Object Name	Type
rect	Rectangle
win	GraphWin
upper_left	Point

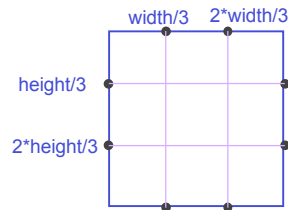
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## Problem: Draw a Full-Canvas Tic-Tac-Toe Board

- Using the Graphics API
- Make lines purple and line width 3



### Algorithm overview:

- Create 2 vertical, 2 horizontal lines
- Use `setOutline` and `setWidth` methods to format
- Use `draw` method to draw on window

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[tictactoe.py](#)

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## Modification to Tic-Tac-Toe

- **clone** a vertical line and horizontal line and shift appropriately
- Why clone?
  - Maintain the same properties (color, line-width, length)
  - Simplifies code

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[tictactoe2.py](#)

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## Lab 4 Overview

- Practice Python programming
  - Advanced If statements
  - Use `sys` module
  - Indefinite loops (`while`)
  - Object-oriented programming using a third-party library
    - Creates a `.pyc` file
    - Causes printing havoc
- Due on Friday before class
  - Recommended finish before lab ends

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