More Graphics and Objects

Rose-Hulman Institute of Technology

Computer Science and Software Engineering

Check out **06-MoreGraphicsAndObjects** from SVN. Get help if you're stuck. No quiz today.

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Announcements

- HW5 diagram due at beginning class, today
- Remember CM on quizzes

Questions

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Outline

- Random numbers
- Coordinate systems
- Text input in GUI
- Pair programming time

Viewing grades, if HW 2 is done

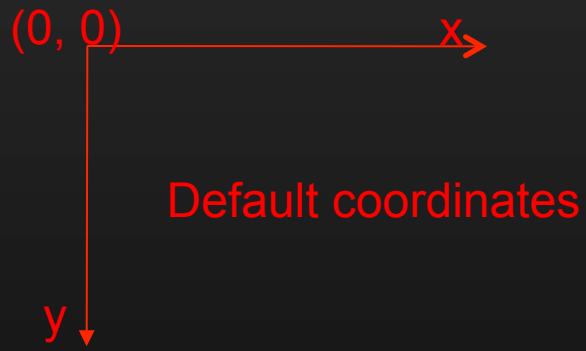
- [[[hidden]]]

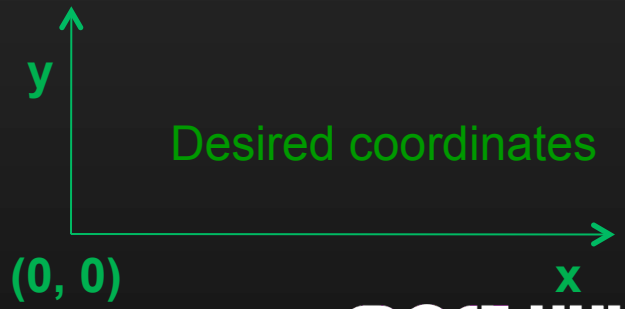
Random Numbers in Python

- **from random import random**
- **random()**
  - random number between 0.0 and 1.0

Coordinate Systems

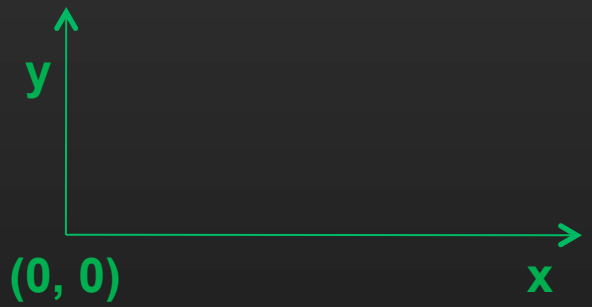
- Important use of graphics: represent *data* visually
- Example: a bar chart
  - We really want (0,0) to be near the lower-left corner





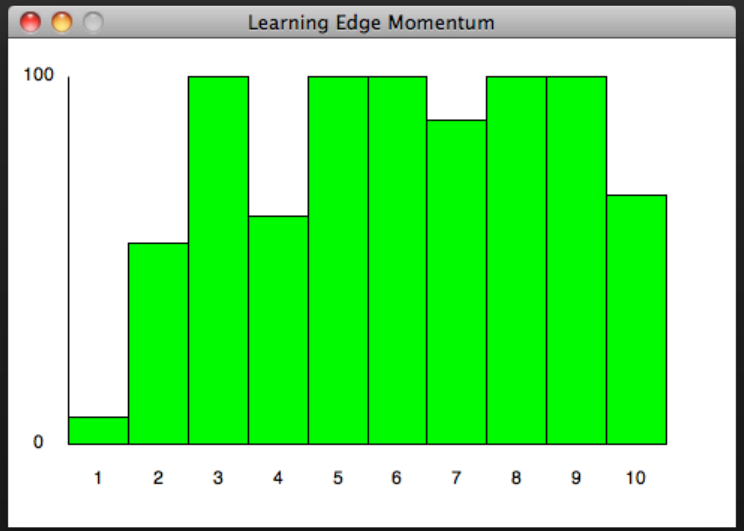
Coordinates in zellegraphics

- **GraphWin** has method to set coordinates
  - **win.setCoords(x1, y1, x2, y2)**
  - Sets coordinates so (**x1,y1**) is the lower-left corner and (**x2,y2**) is the upper-right



Example: Learning Edge Momentum

- Idea:
  - Success in subsequent weeks of a course depends on success in prior weeks
  - Amount of “momentum” depends on how interrelated the ideas are
  - Ideas in learning to program seem to be highly interrelated



Robins, A. Learning edge momentum: A new account of outcomes in CS1. Computer Science Education, 20(1), 37-71, 2010.

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Text Input with zellegraphics

- Use an **Entry** object
- Constructor:
  - **Entry(centerPoint, width)**
- Methods:
  - Usual graphics ones, plus
  - **setText(str)** and **getText()**

Pair Programming for HW6

- Tic Tac Toe
  - Just graphics, no AI or checking for wins (yet)
  - Coordinate system and **getMouse()**
- Decorate
  - Loops, random numbers, using objects

Show your sketches to one of the assistants or me before starting (much) programming.

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