CSI31 Introduction to Computer Programming I

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Future value program again

▸ Text output

▸ A graph would be better in some ways.

Graphical representation of data

▸ Graphical version of future value futval_graph.py

▸ Design is incorporated into program as comments

▸ Most of the work is in computing pixel values to correspond to computed numbers

Graphical representation of data

- Graphical version of future value futval_graph2.py

- Sets coordinate system to roughly correspond to range of values to be computed

- Plot points directly from computed values

Interactive graphics

- Mouse clicks

- Text input

Graphical user interface (GUI)

- Instead of typing commands, users interact with an application by clicking the mouse on a region, on a button, choosing from a menu, entering text into a box.

Event driven programming

- The program waits for something to happen, often an interaction with a GUI, information from user interaction is captured into an event, sent off to be processed.

Mouse clicks

- Look at program click.py

- p = win.getMouse()

  when mouse is clicked, getMouse returns the location of the mouse click as a Point. The location is assigned to the variable p. p.getX(), p.getY() return coordinates

Draw a triangle determined by three mouse clicks

- Get three points with mouse, save them, draw them.

- Draw the triangle as a polygon. What is a polygon?

- Add the command to close the window.

Graphics Module Reference

- List of all classes and methods in section 4.8

Programs from the text

▶ http://mcsp.wartburg.edu/zelle/python/ppics3/index.html

▶ Author's website for textbook

▶ All the program files

▶ Module graphics.py