Swimmer.Py

an aquatic adventure in programming with VPython

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Abstract

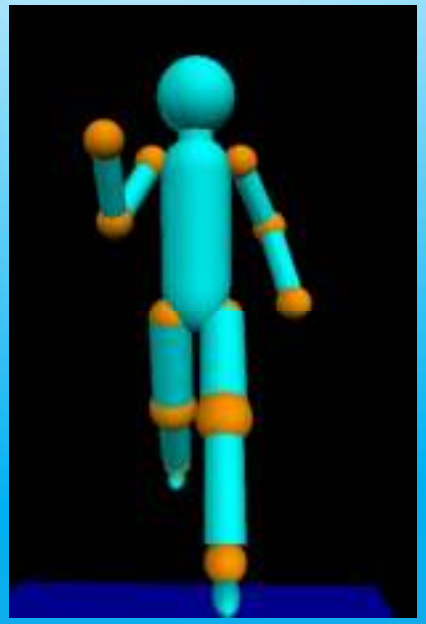
- Model the motion of someone swimming
- Show differences between the four strokes
- Teach people about swimming
- Interested in because of summer job

About the Sport

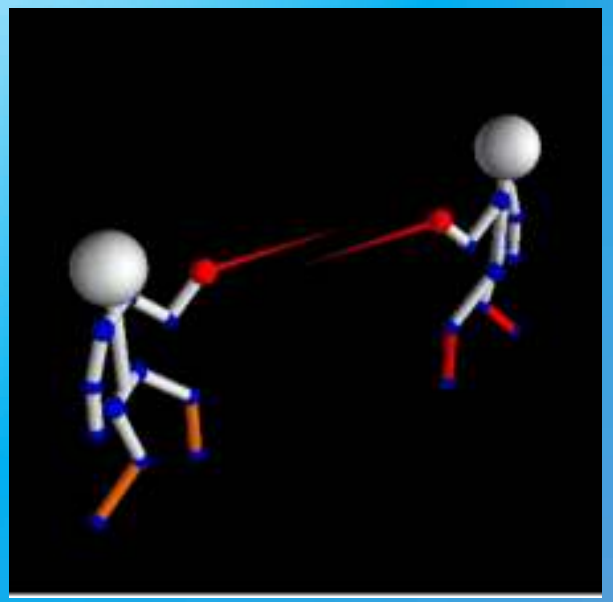
- Officially started in the early 1800's
- Olympic sport
- Four main strokes: Crawl, backstroke, breaststroke, and butterfly

The Programming Aspect

- VPython
- Blobby Man
- Geometric shapes
- Frames

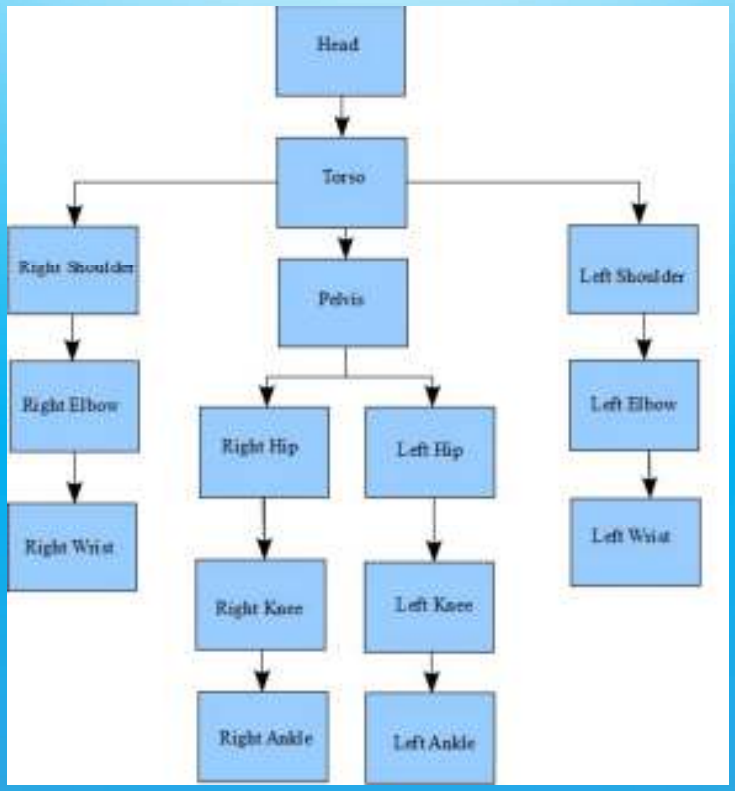


http://new.math.uiuc.edu/math198/MA198-2011/mjpiper2/pix/runningguypic.jpg



http://new.math.uiuc.edu/math198/MA198-2014/bora2/fencerfinal.gif

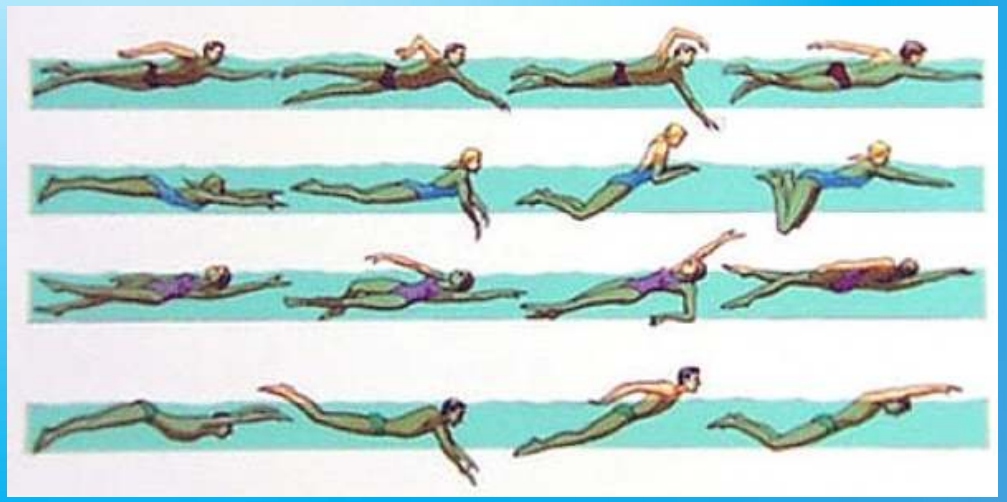
Frames



http://new.math.uiuc.edu/math198/MA198-2011/mjpiper2/pix/framehierarchy.jpg

Animation

- Crawlstroke
- Breaststroke
- Backstroke
- Butterfly



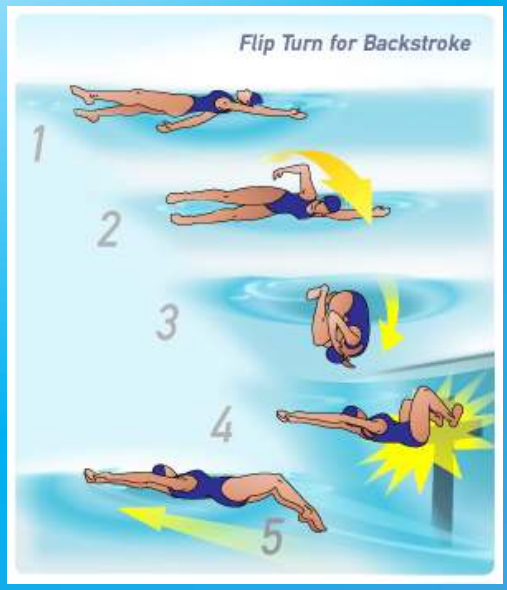
http://avoca37.org/17katherinek/2013/12/10/feature-article/

The Fifth Stroke

http://thumbs.dreamstime.com/x/exercising-dog-15943844.jpg

What else could be done?

- More joints and frames
- Multiple blobby men
- Race
- Add a pool
- Flip turn



http://www.swimoutlet.com/guides/how-to-do-a-backstroke-flip-turn/

Sources

- Picture sources are noted throughout the presentation
- http://usaswimming.org/DesktopDefault.aspx?TabId=1696&Alias=Rainbow&Lang=en
- http://www.olympic.org/swimming-equipment-and-history?tab=history