## Math 320 – Computer Methods in the Mathematical Sciences I.

**Project Title:** Program Termination Analysis and Cycle Detection.

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### 1 Presentation

### **Comments:**

- Nice intuition in describing decidable, (un)recognizable; nice clear definitions.
- Really nice description of the proof for undecidability!
- Great idea including cute animals!
- Good job with the Facebook applications.
- Turtle-har really beautifully explained.
- Good job connecting everything thematically.

**Grade:** 10/10

Excellent presentation on an interesting topic. You were able to be both accessible and sophisticated. Well done!

# 2 Paper

#### **Comments:**

- Very nice introduction, with good toy code.
- I like the proof of undecidability (minus some typos).
- Nice job spelling out definitions.
- Good image + illustration of Floyd's algorithm.
- Code is really well commented!
- Well done including the complexity discussion I think the complexity in the general directed graph case is lower than you say. If you assume every sequence is legitimate then you will run into cycles in the other part!

**Grade:** 9.5/10

Very nicely written paper that tackles the theoretical and computational aspects of the problem ambitiously. It could have been a bit more polished (content-wise and formatting-wise), but overall great job!