Project 2

- Monday Jan 21 is the Martin Luther King holiday -- no class
- Project 2 will be due Jan 28
- Will be slightly longer than other weekly projects, will cover a few more topics
- Will have exercises on iteration (Jan 14 lecture) and conditionals (Jan 16)
- Three parts:
  - tutorials -- just type in, experiment with expressions given on web page
  - warmup projects -- download short programs, modify them according to instructions
  - programming projects -- short programs to write, given verbal descriptions of what they should do
- The tutorials are on-line now, but I’m adding the exercises on conditional expressions to the other two parts...

Program Development

- A major area of computer science (and some would say a separate discipline altogether) is software engineering
- how to develop a working application from beginning (vague ideas) to end (working, documented, distributed application)
- A big part of this course will be an ongoing discussion of methods for designing, coding, and testing the programs you write for your labs
- We’ll use a method known as “agile programming”
Main Topics from Jan 14

- An array is a **container**
  - elements in an array can be any type of object
  - the objects to not have to be from the same class
- Elements in an array are accessed according to their position (aka **index**)
  - first item at `a[0]`
  - last item in an n-element array at `a[n-1]`
- An operation that "traverses" an array to do something with each element is known as **iteration**
- The Array class in Ruby has special methods known as **iterators** that help write programs that iterate over an Array object
  ```ruby
  a.each { |x| .... }     a.each do |x|
  ...                    ...
  end
  ```