503: Program Analysis

Assignment 3: Abstract Interpretation Design

Due: Friday, April 14 before midnight

Divide-by-zero errors often catch developers off guard¹. They can happen due to division by zero (e.g. 1/0) or mod by zero (e.g. 1%0).

Give an abstract interpretation that catches possible divide-by-zero errors statically. Think carefully about your choices; the design space is quite large!

Briefly contrast your design to an alternative you chose. Name one way in which your design is better than the alternative, and one way in which it is worse.

When you submit your completed assignment, please indicate how many hours it took to complete. This will not factor into your grade.

 $^{^{1} \}verb|https://github.com/search?q=divide+by+zero&type=Issues|$