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collaborators:

1 Problem Statement

2 Reasoning and Commentary

3 Algorithm

3.1 Pseudo-code

```

While there is existence
  If existence is pain then:
    relax
  Else chill
    If cold then:
      warm
    Else chill some more
  Endif
Endwhile
Return relaxation

```

4 Proof of Correctness

Completion:

Optimality:

Lemma 4.1 *This is a claim with a list of equations:*

1. $N_x = (4 - 0)/20 = 1/5$
2. $N_y = (10 - 0)/20 = 1/2$
3. $N_z = \sqrt{(1 - (1/5)^2 - (1/2)^2)} = \sqrt{0.71} \approx .843$

Proof. This is a proof ■

5 Running Time Analysis

This is a matrix!

$$R^{-1} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & -0.8 & -0.6 & 0 \\ 0 & 0.6 & -0.8 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

We can use the same logic in 4.1.1 to show that the gradient with respect to the weights w is also a flipped convolution over a separate line equation \tilde{x} :

$$\frac{\partial L}{\partial w} = \frac{\partial L}{\partial y} \star \tilde{x}$$

and cool picture: