

Problem 05: Division

Given two natural numbers a and b , compute the quotient and remainder of a/b , using only subtraction, addition, and the comparison operators.

$$A = \mathbb{N} \times \mathbb{N} \times \mathbb{N} \times \mathbb{N}_0$$

$$B = \mathbb{N} \times \mathbb{N}$$

$$Q = (a' = a) \wedge (b' = b)$$

$$R = Q \wedge (r < b) \wedge (a = db + r)$$