Reciprocal Approximation Sequence

$R_1 = 2A - A^2B = -(A^2B - 2A)$

where: B = The operand that you want reciprocal of.

-2A = A 14-bit value of which 13 bits come from the look-up table.

A^2 = A 26-bit value from the look-up table.

R_1 = The approximate reciprocal of B.

example: Find approximate reciprocal of 2. The answer should be 1/2 or .5. Let's assume the guess A = .497.

$R_1 = -(A^2B - 2A)$

B = 2
$-2A = (-2)(.497) = -.994$
$A^2 = .497^2 = .247009$

$R_1 = -[(.247009)(2) - .994] = .499982$

Approximate reciprocal of 2 = .499982

Reciprocal Approximation Instruction Summary

132ij- Enter Si with reciprocal approximation Sj

166i-k Enter Vi with reciprocal approximation Vk

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