

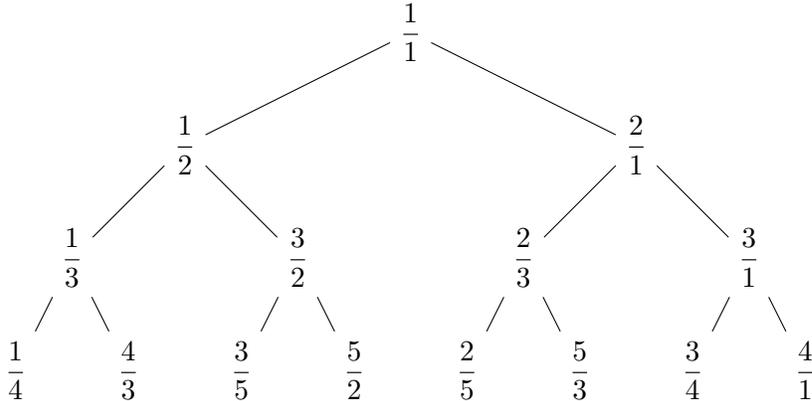
Curious Fraction Tree • [Mark Senn](#) • last updated on 2022-01-08 at 21:24-05

Problem Statement

From [The Weekly Challenge - 146 Task #2: Curious Fraction Tree](#) retrieved on 2021-12-28 at 12:07-05:34-05:

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Consider the following Curious Fraction Tree:



You are given a fraction, member of the tree created similar to the above sample.

Write a script to find out the parent and grandparent of the given member.

Example 1

Input: `$member = '3/5'`;

Output: `parent = '3/2'` and `grandparent = '1/2'`

Example 2

Input: `$member = '4/3'`;

Output: `parent = '1/3'` and `grandparent = '1/2'`

Observation

The node with value $\frac{n}{d}$

with additional conditions	has	with value
(none)	left child	$\frac{n}{n+d}$
(none)	right child	$\frac{n+d}{d}$
$n < d$	parent	$\frac{n}{d-n}$
$n = d$	no parent	(not applicable)
$n > d$	parent	$\frac{n-d}{d}$

Raku Solution #1

```
my $member = $*IN.get;
```

```

# Split into numerator and denominator.
my ($n, $d) = $member.split('/');

say "Input: \ $member = '$n/$d'";

for ('Output: parent =', ' and grandparent =') -> $label
{
    if ($n < $d) { $d = $d - $n; }
    elsif ($n == $d) { say "no parent"; exit 1; }
    else { $n = $n - $d; }
    print "$label '$n/$d'";
}

say '';

```

Raku Solution #2

```

my $member = $*IN.get;

# Split into numerator and denominator.
my ($n, $d) = $member.split('/');

say "Input: \ $member = '$n/$d'";

for ('Output: parent =', ' and grandparent =') {
    given ($n <=> $d) {
        when -1 { $d = $d - $n; } # n < d
        when 0 { say "no parent"; exit 1; } # n = d
        when 1 { $n = $n - $d; } # n > d
    }
    print "$_ '$n/$d'";
}

say '';

```