

```
1: #!/usr/bin/perl
2: # $Id: egyptian-division.perl,v 1.2 2015-01-20 17:50:47-08 - - $
3:
4: $0 =~ s|.|*/||;
5: print STDERR "Usage: $0 numerator denominator\n" and exit
6: unless @ARGV == 2 and ($number, $denom) = @ARGV
7:     and $number =~ m/^\d+$/ and $denom =~ m/^\d+$/;
8:
9: print "$0: verification: $number / $denom = ", int $number / $denom,
10:      " remainder ", $number % $denom, "\n\n";
11:
12: $stop = 1;
13: $right = $denom;
14:
15: while ($right <= $number) {
16:     push @stack, [$stop, $right];
17:     $stop += $stop;
18:     $right += $right;
19: }
20:
21: ($remdr, $quot) = ($number, 0);
22: $fmt = "%12s %12s %12s %12s\n";
23: while (@stack) {
24:     printf $fmt, "", "", $remdr, $quot;
25:     ($stop, $right) = @{$pop @stack};
26:     if ($right <= $remdr) {
27:         $remdr -= $right;
28:         $quot += $stop;
29:         printf $fmt, $stop, $right, "- " . $right, "+ " . $stop;
30:     } else {
31:         printf $fmt, $stop, $right, "- 0", "+ 0";
32:     }
33:     printf $fmt, "", "", "= " . $remdr, "= " . $quot;
34:     printf "\n";
35: }
36:
37: printf $fmt, "", "", "remainder", "quotient";
38:
39: DATA
40: //TEST// egyptian-division.perl 76543 123 >egyptian-division.out
41: //TEST// mkpspdf egyptian-division.ps \
42: //TEST// egyptian-division.perl egyptian-division.out
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1: egyptian-division.perl: verification: 76543 / 123 = 622 remainder 37
2:
3:           76543           0
4:       512       62976   - 62976   + 512
5:           = 13567       = 512
6:
7:           13567           512
8:       256       31488   - 0       + 0
9:           = 13567       = 512
10:
11:          13567           512
12:      128      15744   - 0       + 0
13:          = 13567       = 512
14:
15:          13567           512
16:       64       7872   - 7872   + 64
17:          = 5695       = 576
18:
19:          5695           576
20:      32      3936   - 3936   + 32
21:          = 1759       = 608
22:
23:          1759           608
24:      16      1968   - 0       + 0
25:          = 1759       = 608
26:
27:          1759           608
28:       8       984   - 984   + 8
29:          = 775       = 616
30:
31:          775           616
32:       4       492   - 492   + 4
33:          = 283       = 620
34:
35:          283           620
36:       2       246   - 246   + 2
37:          = 37       = 622
38:
39:          37           622
40:      1      123   - 0       + 0
41:          = 37       = 622
42:
43:                      remainder      quotient
```