

```
1: #!/usr/bin/perl
2: # $Id: egypt-div.perl.pdf,v 1.1 2015-10-09 18:22:53-07 - - $
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";
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```
1: egypt-div.perl: verification: 876543 / 123 = 7126 remainder 45
2:
3:      876543      0
4:      4096      503808      - 503808      + 4096
5:      = 372735      = 4096
6:
7:      372735      4096
8:      2048      251904      - 251904      + 2048
9:      = 120831      = 6144
10:
11:      120831      6144
12:      1024      125952      - 0      + 0
13:      = 120831      = 6144
14:
15:      120831      6144
16:      512      62976      - 62976      + 512
17:      = 57855      = 6656
18:
19:      57855      6656
20:      256      31488      - 31488      + 256
21:      = 26367      = 6912
22:
23:      26367      6912
24:      128      15744      - 15744      + 128
25:      = 10623      = 7040
26:
27:      10623      7040
28:      64      7872      - 7872      + 64
29:      = 2751      = 7104
30:
31:      2751      7104
32:      32      3936      - 0      + 0
33:      = 2751      = 7104
34:
35:      2751      7104
36:      16      1968      - 1968      + 16
37:      = 783      = 7120
38:
39:      783      7120
40:      8      984      - 0      + 0
41:      = 783      = 7120
42:
43:      783      7120
44:      4      492      - 492      + 4
45:      = 291      = 7124
46:
47:      291      7124
48:      2      246      - 246      + 2
49:      = 45      = 7126
50:
51:      45      7126
52:      1      123      - 0      + 0
53:      = 45      = 7126
54:
55:      remainder      quotient
```