```perl
 1: #!/usr/bin/perl
 2: # $Id: egypt-mul.perl.pdf,v 1.1 2015-10-09 18:22:53-07 - - $
 3:
 4: $0 =~ s|.*/||;
 5: print STDERR "Usage: $0 multiplier multiplicand\n" and exit
 6: unless @ARGV == 2 and ($left, $right) = @ARGV
 7:        and $left =~ m/^\d+$/ and $right =~ m/^\d+$/;
 8:
 9: print "$0: verification: $left * $right = ", $left * $right, "\n\n";
10:
11: $top = 1;
12: while ($top <= $left) {
13:    push @stack, [$top, $right];
14:    $top += $top;
15:    $right += $right;
16: }
17:
18: $result = 0;
19: $fmt = "%12s %12s   %12s %12s\n";
20: while (@stack) {
21:    printf $fmt, "", "", $left, $result;
22:    ($top, $right) = @{pop @stack};
23:    if ($top <= $left) {
24:        $left -= $top;
25:        $result += $right;
26:        printf $fmt, $top, $right, "- " . $top, "+ " . $right;
27:    }else {
28:        printf $fmt, $top, $right, "- 0", "+ 0";
29:    }
30:    printf $fmt, "", "", "= " . $left, "= " . $result;
31:    printf "\n";
32: }
33:
34: printf $fmt, "", "", "zero", "product";
35:
```

```
 1: egypt-mul.perl: verification: 745 * 1033 = 769585
 2:
 3:                                            745              0
 4:          512         528896           − 512        + 528896
 5:                                          = 233        = 528896
 6:
 7:                                            233           528896
 8:          256         264448             − 0              + 0
 9:                                          = 233        = 528896
10:
11:                                            233           528896
12:          128         132224           − 128        + 132224
13:                                          = 105        = 661120
14:
15:                                            105           661120
16:           64          66112             − 64         + 66112
17:                                           = 41        = 727232
18:
19:                                             41           727232
20:           32          33056             − 32         + 33056
21:                                            = 9        = 760288
22:
23:                                              9           760288
24:           16          16528              − 0             + 0
25:                                            = 9        = 760288
26:
27:                                              9           760288
28:            8           8264              − 8          + 8264
29:                                            = 1        = 768552
30:
31:                                              1           768552
32:            4           4132              − 0             + 0
33:                                            = 1        = 768552
34:
35:                                              1           768552
36:            2           2066              − 0             + 0
37:                                            = 1        = 768552
38:
39:                                              1           768552
40:            1           1033              − 1          + 1033
41:                                            = 0        = 769585
42:
43:                                           zero          product
```