

```
1: #!/usr/bin/perl
2: # $Id: egypt-mul.perl,v 1.1 2012-02-07 19:44:53-08 - - $
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: $stop = 1;
12: while ($stop <= $left) {
13:     push @stack, [$stop, $right];
14:     $stop += $stop;
15:     $right += $right;
16: }
17:
18: $result = 0;
19: $fmt = "%12s %12s    %12s %12s\n";
20: while (@stack) {
21:     printf $fmt, "", "", $left, $result;
22:     ($stop, $right) = @pop @stack;
23:     if ($stop <= $left) {
24:         $left -= $stop;
25:         $result += $right;
26:         printf $fmt, $stop, $right, "- " . $stop, "+ " . $right;
27:     } else {
28:         printf $fmt, $stop, $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
```