```
#!/usr/bin/perl

while (<>) {

  if (/^#/) {
    next;
  }

  @numbers = split;
  $total = 0;
  $count = 0;
  foreach $number (@numbers) {
    if ($number != 0) {
      $total += $number;
    }
  }

  if (@numbers) {
    $average = $total / $count;
    print "Average for line $.: $average.\n";
  }

  $grand_total += $total;
  $grand_count += @numbers;
}

if ($grand_count) {
  $grand_average = $grand_total / $grand_count;
  print "The average of all numbers is $grand_average.\n";
}
```