

$$t_2 = t_1 \cdot \left( \frac{n_2}{n_1} \right)^2$$

where user time is 12.281 seconds  
and  $n_1 = 30,000$

$$t_2 = 12.281 \text{ seconds} \cdot \left( \frac{100,000}{30,000} \right)^2$$

$$t_2 = 12.281 \text{ seconds} \cdot \left( \frac{10}{3} \right)^2$$

$$t_2 = 12.281 \text{ seconds} \cdot \frac{100}{9}$$

$$t_2 = 136.45 \text{ seconds}$$

estimated time to sort Numbers 2. + x +  
is 136.45 seconds