Find the sum of prime factors

$2 + 5 + 3 = 0$ or $2 \cdot 3 \cdot 5$ prime factors of 30

$N = 15$ $\{2, 3, 5, 7, 11\}$

$N = 12 = \{2, 2, 3, 3, 5, 13\}$

int countFactors(int N)

int cnt = 0;

if (i % i == 0) {

if (N % i == 0) {

// i is a prime factor of N

cnt++;

}

}

int cnt;

$N = 30$

$1 \cdot 2 \cdot 3 \cdot 5$

$30 \cdot 2 \cdot 3 \cdot 5$

$\frac{30}{2} \cdot 3 \cdot 5$

$\frac{30}{2} \cdot \frac{30}{3} \cdot 5$

$\frac{30}{2} \cdot \frac{30}{3} \cdot \frac{30}{5}$

$\frac{30}{2} \cdot \frac{30}{3} \cdot \frac{30}{5} \cdot \frac{30}{30}$

$\frac{30}{2} \cdot \frac{30}{3} \cdot \frac{30}{5} \cdot \frac{30}{30} \cdot \frac{30}{1}$

$\frac{30}{2} \cdot \frac{30}{3} \cdot \frac{30}{5} \cdot \frac{30}{30} \cdot \frac{30}{1} \cdot \frac{30}{30}$

$\frac{30}{2} \cdot \frac{30}{3} \cdot \frac{30}{5} \cdot \frac{30}{30} \cdot \frac{30}{1} \cdot \frac{30}{30} \cdot \frac{30}{1}$

$\frac{30}{2} \cdot \frac{30}{3} \cdot \frac{30}{5} \cdot \frac{30}{30} \cdot \frac{30}{1} \cdot \frac{30}{30} \cdot \frac{30}{1} \cdot \frac{30}{30}$

Optimize

$i \cdot i = \text{prime}$

$i \cdot i = N$

$i \cdot i = N \Rightarrow \frac{i}{i} = \text{prime factor of } N$

$i \cdot i = N$

$\frac{i \cdot i}{i} = N/i$

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$\frac{i \cdot i}{i} = N/i