

$$\text{divisor} \times \text{divisor} \leq \text{num}$$

$$6^2 = 36 \quad \sqrt{36} = 6$$

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sq. both side

$$36 = 6^2$$

$$\text{int } z = 36$$

`int y = Math.sqrt(z);`

`cout(y); //6`

$$24$$

$$\begin{array}{cc} 1 \times 24 & 24 \times 1 \\ 2 \times 12 & 12 \times 2 \\ 3 \times 8 & 8 \times 3 \\ 4 \times 6 & 6 \times 4 \end{array}$$

$$\sqrt{24}$$

$$36$$

$$\begin{array}{cc} 1 \times 36 & 36 \times 1 \\ 2 \times 18 & 18 \times 2 \\ 3 \times 12 & 12 \times 3 \\ 4 \times 9 & 9 \times 4 \end{array}$$

$$\begin{array}{c} 6 \times 6 \\ \sqrt{36} \end{array}$$

$$40$$

$$\begin{array}{cc} 1 \times 40 & 40 \times 1 \\ 2 \times 20 & 20 \times 2 \\ 4 \times 10 & 10 \times 4 \\ 5 \times 8 & 8 \times 5 \end{array}$$

$$\sqrt{40}$$

0 prime \rightarrow only 2 factors.

Prime no.

$$\text{num} = 10$$

$$\begin{array}{c} 1 \\ 2 \\ 5 \\ 10 \end{array}$$

$$\text{num} = 17$$

$$\begin{array}{c} 1 \\ 17 \end{array}$$

$$\text{num} = 3, 11, 19, 23, 5, 7, 2$$

$$9. \text{ num} = 5$$

$$\begin{array}{l} 4 \rightarrow \text{not a prime} \\ 6 \rightarrow \text{not a prime} \\ 7 \rightarrow \text{prime} \\ 13 \rightarrow \text{prime} \\ 20 \rightarrow \text{not} \end{array}$$

$$\text{num} = 3$$

$$\begin{array}{l} 5 \\ \text{prime} \\ 9 \\ \text{not a prime} \\ 11 \\ \text{prime} \end{array}$$