

## Least Prime Factor

Given a number N, find the least prime factors for all numbers from 1 to N. The least prime factor of an integer X is the smallest prime number that divides it.

**Note :**

- 1 needs to be printed for 1.
- You need to return an array/vector/list of **size N+1** and need to use **1-based indexing** to store the answer for each number.

**Example 1:**

**Input:** N = 6

**Output:** [0, 1, 2, 3, 2, 5, 2]

**Explanation:** least prime factor of 1 = 1,  
least prime factor of 2 = 2,  
least prime factor of 3 = 3,  
least prime factor of 4 = 2,  
least prime factor of 5 = 5,  
least prime factor of 6 = 2.  
So answer is [1, 2, 3, 2, 5, 2].

**Example 2:**

**Input:** N = 4

**Output:** [0, 1, 2, 3, 2]

**Explanation:** least prime factor of 1 = 1,  
least prime factor of 2 = 2,  
least prime factor of 3 = 3,  
least prime factor of 4 = 2.  
So answer is [1, 2, 3, 2].

**Your Task:**

You don't need to read input or print anything. Complete the function **leastPrimeFactor()** which takes N as input parameter and returns a list of integers containing all the least prime factors of each number from 1 to N.

**Expected Time Complexity:**  $O(N \log N)$

**Expected Auxiliary Space:**  $O(N)$

**Constraints:**

$2 \leq n \leq 10^5$