***IS\_prime documentation problem***

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# Problem statement:

For a given list of integer numbers, find and print the longest sequence consisting of only prime numbers.

Feature list

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| **Feature** |
| F1. **Check which numbers are prime.** |
| F2. **Find the maximum length of a sequence of prime numbers.** |
| F3. **Print the longest sequence of prime numbers.** |

## Running scenario 1

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|  | **User** | **Program** | **Description** |
| a | n = 8; 34 | i = 0,l = 0, s = 0,  m = 0 | Checks if the first elements which is not prime.  Length = 0 |
| b | 11 | i = 1, l = 1, s = 1,  m = 1 | The second element is prime:  Length = 1 > maxim = 0 => maxim = 1  Start = i – length + 1 = 1 |
| c | 13 | i = 2, l = 2, s = 1, m = 2 | The 3rd element is also prime:  Length = 2 > maxim = 1 => maxim = 2  Start = i – length + 1 = 1 |
| d | 7 | i = 3, l = 3, s = 1, m = 3 | The 4th element is prime:  Length = 3 > maxim = 2 => maxim = 3  Start = i – length + 1 = 1 |
| e | 24 | i = 4, l = 0, s = 1, m = 3 | The 5th element is not prime:  Length = 0  Maxim and start remain the same.  \*When a number is not prime, the length = 0 and the maxim and start remain the same. |
| f | 31 | i = 5, l = 1, s = 1, m = 3 | The 6th element is prime:  Length = 1 < maxim = 3 => maxim = 3  Start = 1 |
| g | 43 | i = 6, l = 2, s = 1, m = 3 | The 7th element is prime:  Length = 2 < maxim = 3 =>maxim = 3  Start = 1 |
| h | 100 | i = 7, l = 0, s = 1, m = 3 | The 8th element is not prime:  Length = 0 < maxim = 3 =>maxim = 3  Start = 1 |
| i |  | 11, 13, 7 | The function prints out the longest sequence which contains only prime numbers. It starts from index = start = 1, and prints out 3 = maxim elements. |

## Tasks

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| **Id** | **Description** |
| T1 | Checks which element is prime. |
| T2 | Finds the maximum length of a sequence with prime numbers. |
| T3 | Finds index from where the sequence starts. |
| T4 | Prints the found sequence. |

1. **Test case table for function long\_prime**

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| **Data: n; list\_n** | **Result: list\_n[i + start]** |
| 10; 12, 11, 7, 19, 31, 10, 48, 5, 3, 23 | 11, 7, 19, 31 |
| 8; 43, 7, 8, 5, 2, 3, 11, 20 | 5, 2, 3, 11 |
| 12; 6, 80, 7, 23, 5, 66, 123, 11, 19, 23, 37, 90 | 11, 19, 23, 37 |
| 8; 34, 11, 13, 7, 24, 31, 43, 100 | 11, 13, 7 |
| 20; 50, 45, 23, 321, 43, 80, 123, 5, 7, 11, 23, 13, 43, 31, 19, 44, 57, 7, 80, 100. | 5, 7, 11, 23, 13, 43, 31, 19 |
| 5; 80, 56, 12, 9, 15 | none |
| 3; -13, -90, -11 | Restarts the program |
| -3; 80, 34, 22 | Restarts the program |