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# Problem statement:

Implement a menu-driven console application that provides the following functionalities:

1. Read a list of integers from the keyboard.

2. Print the entire list of numbers.

3. Print to console the longest sequence in which the difference between the absolute value of consecutive numbers is a prime number.

4. Exit the application.

# Feature list

|  |
| --- |
| **Feature** |
| F1. **Read** a list of integers from the keyboard. |
| F2. **Print** the entire list of numbers. |
| F3. **Print** to console the longest sequence in which the difference between the absolute value of consecutive numbers is a prime number. |
| F4. **Exit** the application. |

## Running scenario 1

|  |  |  |  |
| --- | --- | --- | --- |
|  | **User** | **Program** | **Description** |
| a | 1 | Choose your option: | User chooses to read a list |
| b | 7 | Input the number of elements | User inputs the number of elements |
| c | 1 | Element number one is: | Application reads each element |
| d | 3 | Element number two is: | Application reads each element |
| e | 10 | Element number three is: | Application reads each element |
| f | 1 | Element number four is: | Application reads each element |
| g | 3 | Element number five is: | Application reads each element |
| h | 10 | Element number six is: | Application reads each element |
| i | 21 | Element number seven is: | Application reads each element |
| j | 2 | The elements in the list are:  1 3 10 1 3 10 21 | Application prints the list of elements |
| k | 3 | The longest sequence […]:  1 3 10 21 | Application prints the longest sequence […] |
| l | 0 | ~You closed the application.~ | Application closes with a confirmation message. |

## Tasks

|  |  |
| --- | --- |
| **Id** | **Description** |
| T1 | Read a list of integers (see a-i) |
| T2 | Implement tests for functions |
| T3 | Implement function that returns longest sequence |
| T4 | Implement user interface |

1. **Test case table for function: isPrime(n)**

|  |  |
| --- | --- |
| **Data: n** | **Result: isPrime(n)** |
| -2 | False |
| 2 | True |
| 0 | False |
| 3 | True |
| 1 | False |
| 9 | False |
| -25 | False |
| 11 | True |

1. **Test case table for function: absPrimeDif(a,b)**

|  |  |
| --- | --- |
| **Data: a, b** | **Result: absPrimeDif(a, b)** |
| 1, 3 | True |
| 3, 10 | True |
| 3, 1 | False |
| 10, 21 | True |
| -3, 1 | False |
| 10, -21 | False |
| 2, 2 | False |
| 21, 23 | True |