1. Insert a number. Print ‘yes’ if the number is prime, ‘no’ otherwise.

|  |  |
| --- | --- |
| **Input** | **Output** |
| 401 | ‘yes’ |
| 63 | ‘no’ |

1. Given a number ***n ( n>= 0 )***. Print ***n*** Fibonacci number. *(Fibonacci series: 0, 1, 1, 2, 3, 5, 8 …,* ak = ak-1 + ak-2)

|  |  |
| --- | --- |
| **Input** | **Output** |
| 0 | 0 |
| 2 | 1 |
| 10 | 55 |
| 20 | 6765 |

1. Given a number ***n( n> 0 )***. Print Fibonacci series up to ***n***.

|  |  |
| --- | --- |
| **Input** | **Output** |
| 7 | “0, 1, 1, 2, 3, 5 “ |
| 45 | “0, 1, 1, 2, 3, 5, 8, 13, 21, 34” |

1. Insert a number. Calculate product and sum of the digits of the number. If product is divisible by the sum, print the quotient, otherwise print the remainder.

|  |  |
| --- | --- |
| **Input** | **Output** |
| 1233 | ‘Quotient is 2.’ |
| 5 | ‘Quotient is 1.’ |
| 0 | ‘Cannot calculate.’ |
| 455 | ‘Remainder is 2.’ |

1. Given three numbers **a, b** (a ≤ b) and **num.** Create an array of evenly spaced numbers by the given **num** length over the specified interval (from **a** to **b).**

|  |  |
| --- | --- |
| **Input** | **Output** |
| 1 5 1 | [1] |
| 10 100 3 | [10, 55, 100] |
| 1 5 6 | [ 1 , 1.8, 2.6, 3.4, 4.2, 5 ] |

1. Given an array of numbers. Find the index of the second maximum element.

|  |  |
| --- | --- |
| **Input** | **Output** |
| [23, -98, 0, -456, 12, 8] | 4 |
| [-60, 2, 43, -18, 5, -19, 36, 7, 56 ] | 2 |

1. Given an array of numbers, padding amount and repeat count. Pad the array in the following way: the padding amount specifies how many elements should be taken from the array edges, the repeat amount specifies how many times the pad should be repeated. Also, you should check that *padding amount <= length of array.*

|  |  |
| --- | --- |
| **Input** | **Output** |
| array = [1, 2, 3, 4] padAmount = 1 repeat = 3 | [1, 1, 1, 1, 2, 3, 4, 4, 4, 4] |
| array = [1, 2, 3, 4] padAmount = 2 repeat = 1 | [1, 2, 1, 2, 3, 4, 3, 4] |
| array = [1] padAmount = 1 repeat = 3 | [1, 1, 1, 1, 1, 1, 1] |
| array = [1] padAmount = 2 repeat = 3 | “Invalid padding amount” |