1. ****Python Program to Count the Number of Occurrences of an Element in the Linked List with using Recursions.****

**class Node:**

**def \_\_init\_\_(self, data):**

**self.data = data**

**self.next = None**

**class LinkedList:**

**def \_\_init\_\_(self):**

**self.head = None**

**self.last\_node = None**

**def append(self, data):**

**if self.last\_node is None:**

**self.head = Node(data)**

**self.last\_node = self.head**

**else:**

**self.last\_node.next = Node(data)**

**self.last\_node = self.last\_node.next**

**def display(self):**

**current = self.head**

**while current:**

**print(current.data, end = ' ')**

**current = current.next**

**def count(self, key):**

**return self.count\_helper(self.head, key)**

**def count\_helper(self, current, key):**

**if current is None:**

**return 0**

**if current.data == key:**

**return 1 + self.count\_helper(current.next, key)**

**else:**

**return self.count\_helper(current.next, key)**

**a\_llist = LinkedList()**

**for data in [8, 5, 6, 4, 1, 9, 33, 6, 2, 11, 8, 4 ,6] :**

**a\_llist.append(data)**

**print('The linked list: ', end = '')**

**a\_llist.display()**

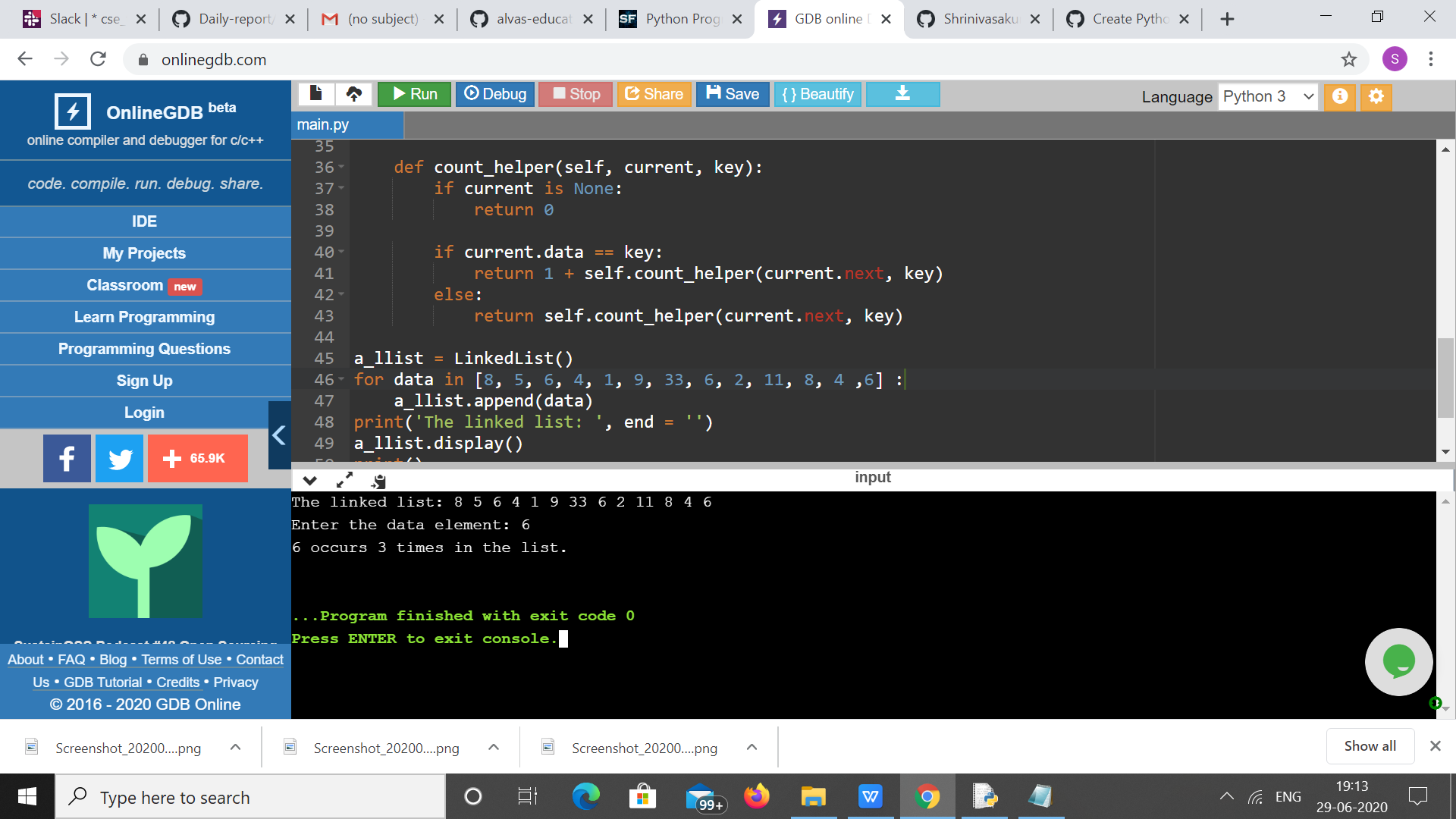
**print()**

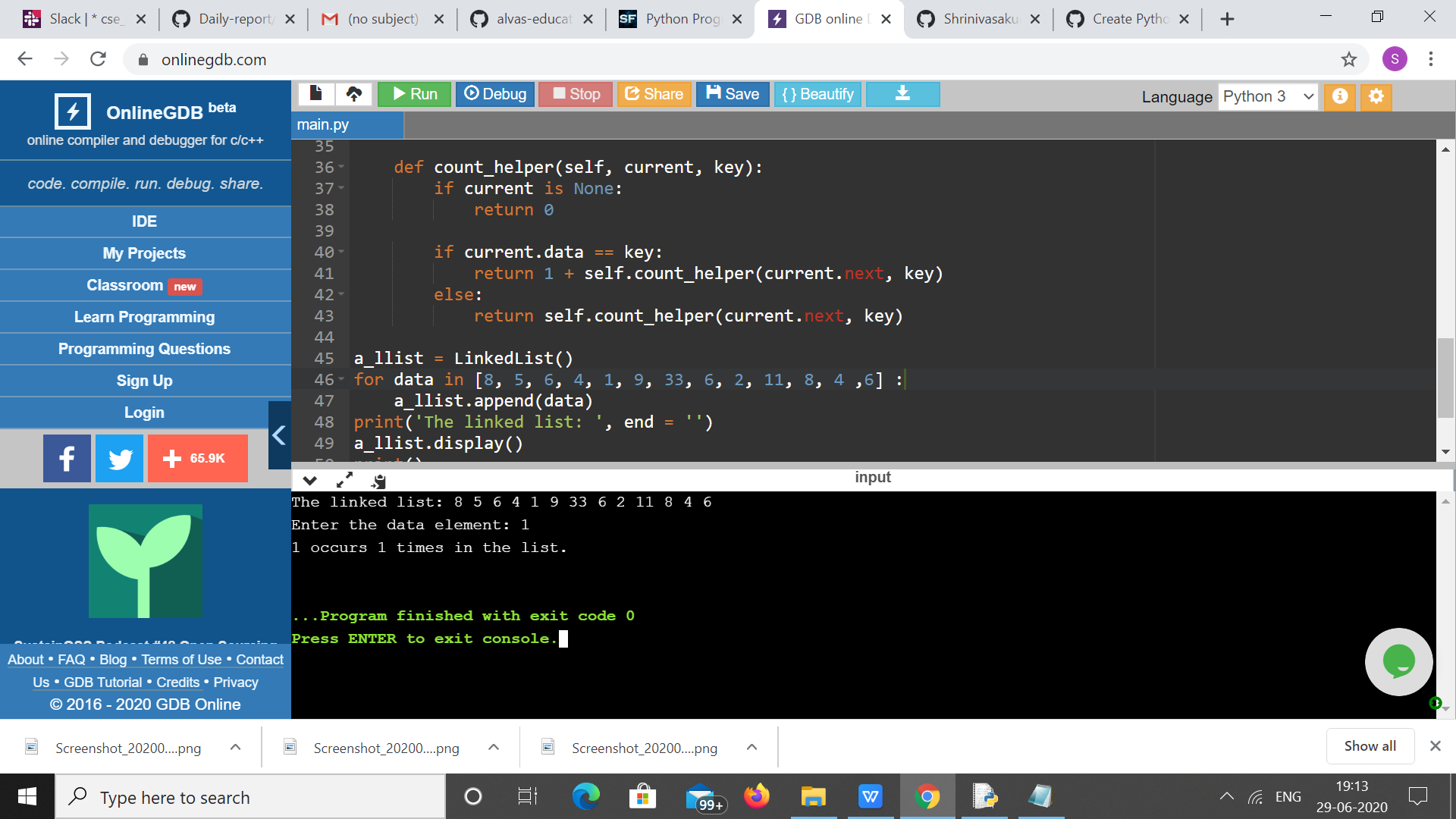
**key = int(input('Enter the data element: '))**

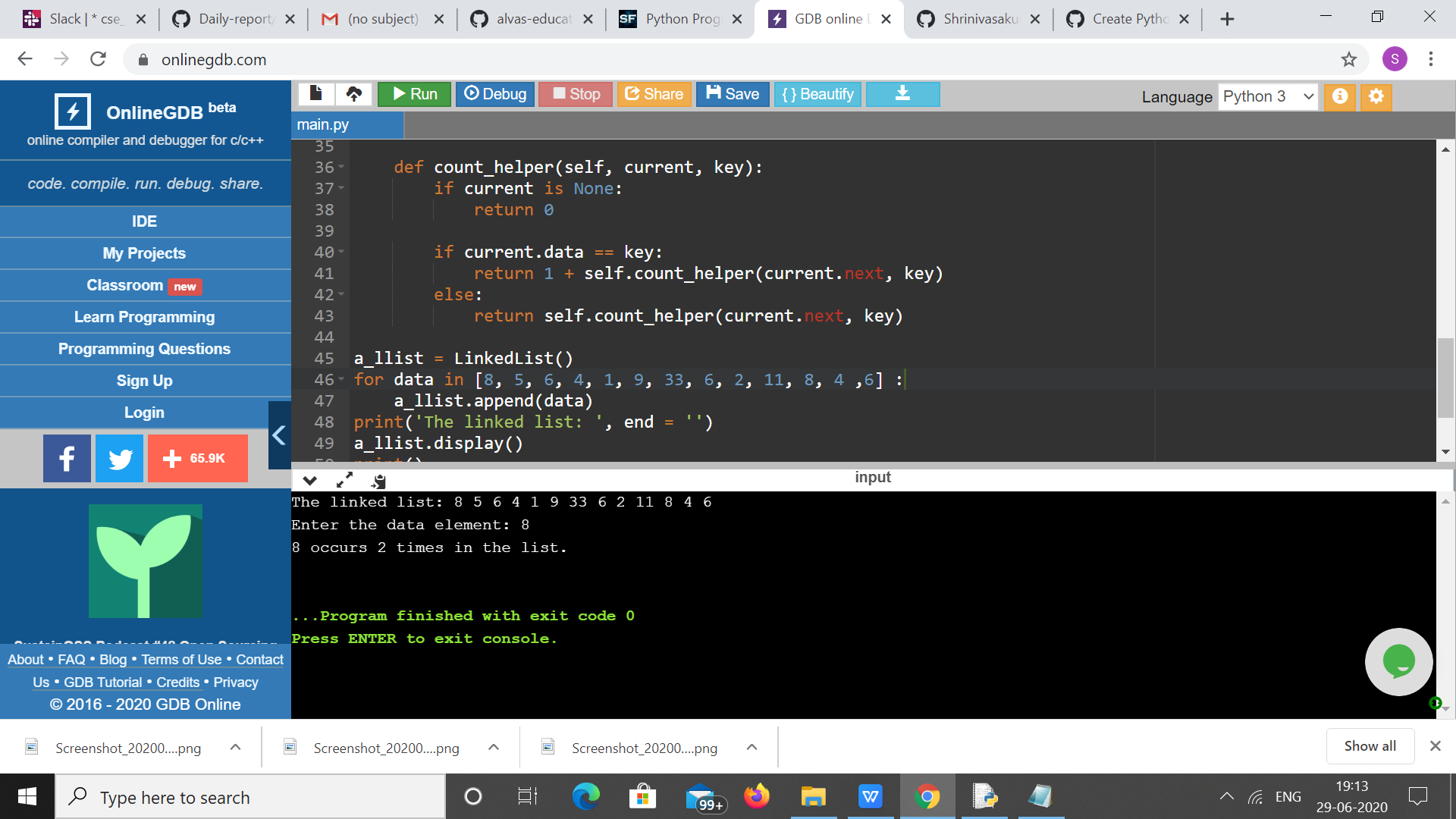
**count = a\_llist.count(key)**

**print('{0} occurs {1} times in the list.'.format(*key, count))***

****OUTPUT****

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1. ****Python Program to Count the Number of Occurrences of an Element in the Linked List without using Recursions.****

**class Node:**

**def \_\_init\_\_(self, data):**

**self.data = data**

**self.next = None**

**class LinkedList:**

**def \_\_init\_\_(self):**

**self.head = None**

**self.last\_node = None**

**def append(self, data):**

**if self.last\_node is None:**

**self.head = Node(data)**

**self.last\_node = self.head**

**else:**

**self.last\_node.next = Node(data)**

**self.last\_node = self.last\_node.next**

**def display(self):**

**current = self.head**

**while current:**

**print(current.data, end = ' ')**

**current = current.next**

**def count(self, key):**

**current = self.head**

**count = 0**

**while current:**

**if current.data == key:**

**count = count + 1**

**current = current.next**

**return count**

**a\_llist = LinkedList()**

**for data in [ 4, 6 ,9 ,11 , 58, 4, 7, 11, 5, 11, 8 ,9 ,11 ]:**

**a\_llist.append(data)**

**print('The linked list: ', end = '')**

**a\_llist.display()**

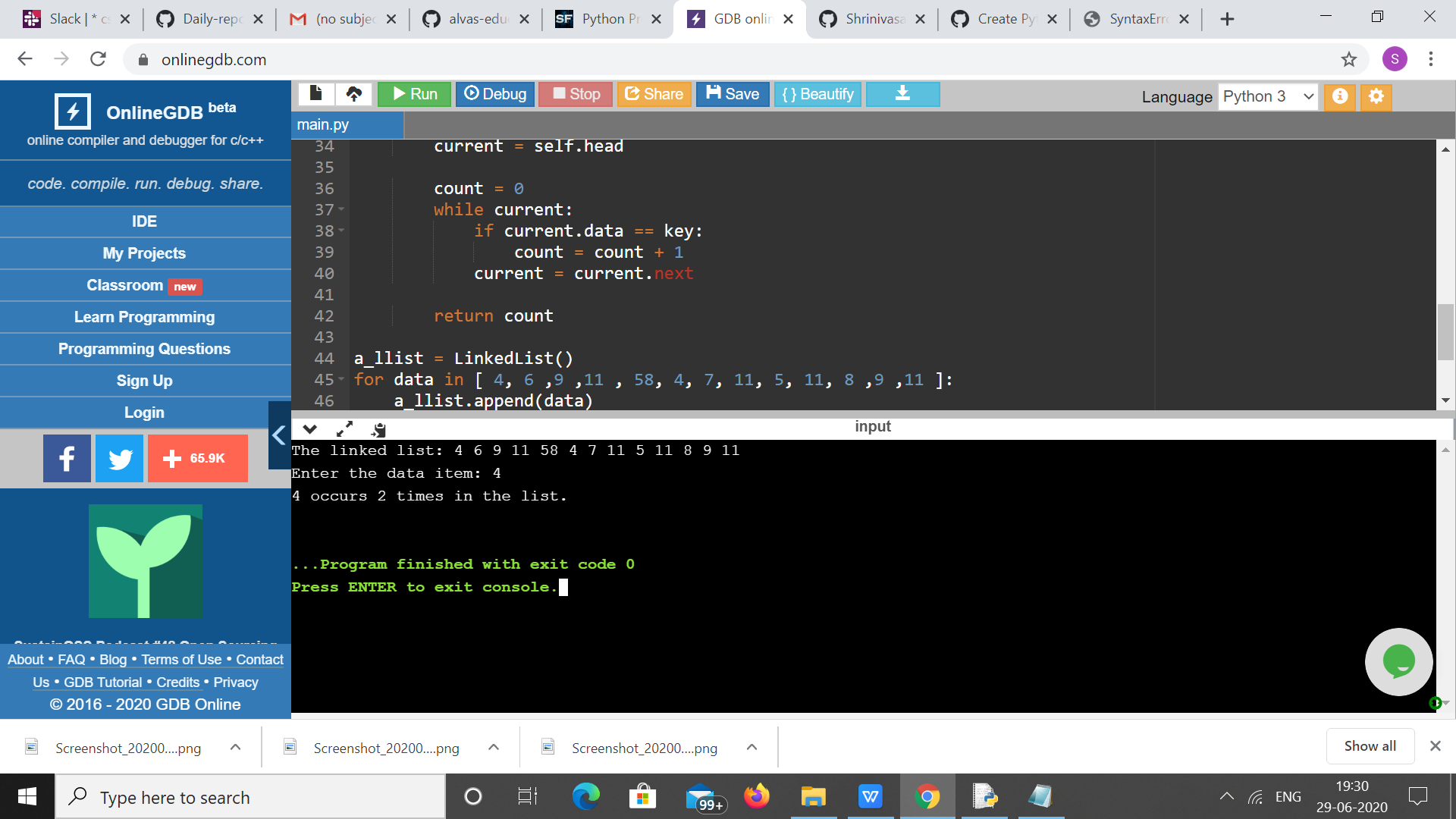
**print()**

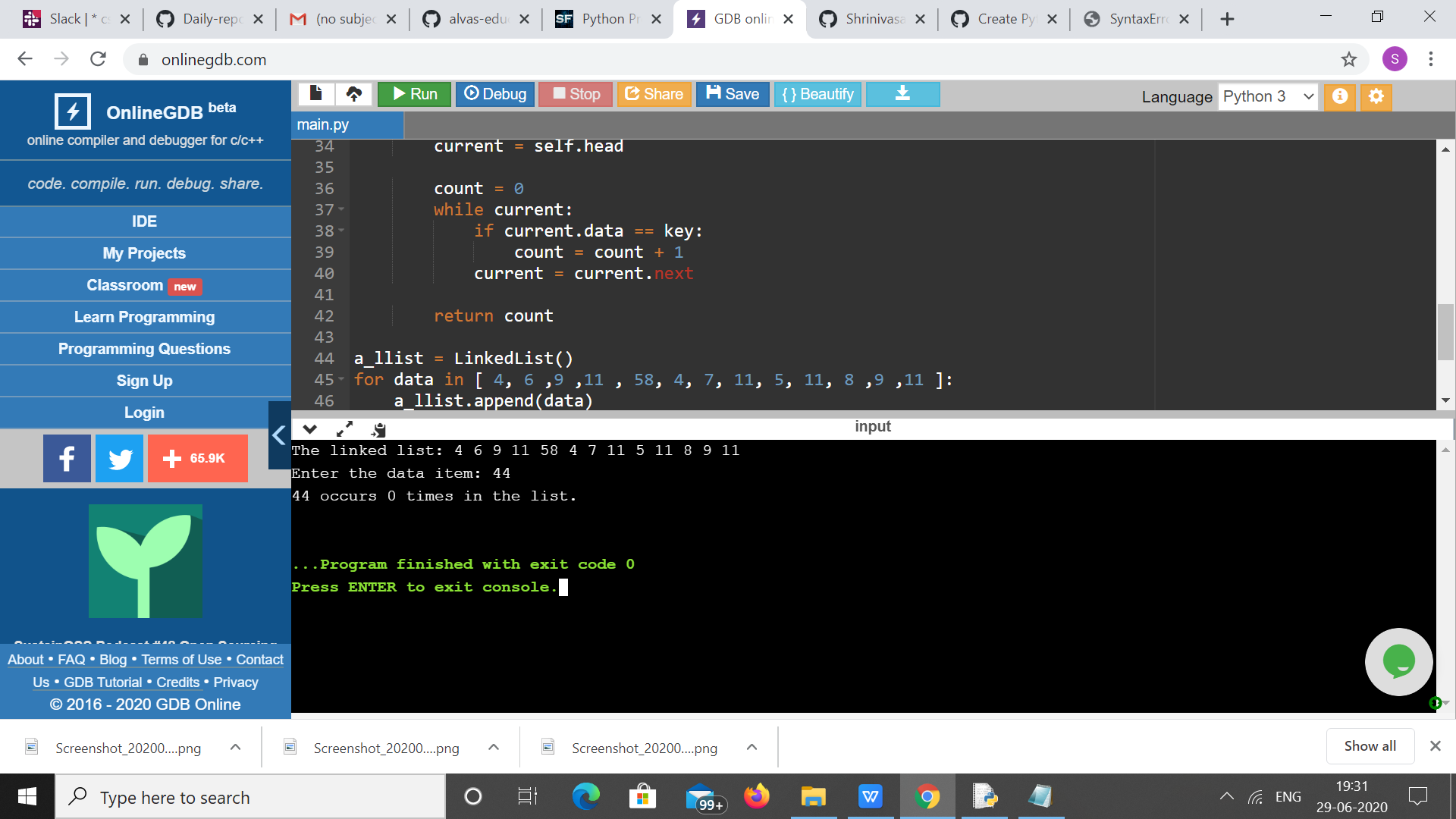
**key = int(input('Enter the data item: '))**

**count = a\_llist.count(key)**

**print('{0} occurs {1} times in the list.'.format(key, count))**

**OUTPUT**

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