P E S University

Department of Computer Science & Engineering

Session : Aug-Dec 2019

Introduction to Computing using Python Laboratory(UE19CS102)

Week 10 – Programs on Functions

1	Write a function that accepts two strings as input and prints or returns the string with maximum length as the output . If two strings have the same length, then the function should print both the strings as output. Sample input: s1="python" s2="programming" Sample output: programming ``` def max_str_val(s1,s2): len1 = len(s1) len2 = len(s2) if len1>len2: print (s1) elif len2>len1: print (s2) else: print (s1) print (s2) max_str_val("python","programming") ```
2	Write a Python function that takes a list as an argument and returns a new list with the duplicate values being removed. Sample input: l=[1,2,3,3,3,3,4,5] Sample output: [1, 2, 3, 4, 5] Solution: ``` def unique_list(l): x = [] for a in l: if a not in x: x.append(a) return x print(unique_list([1,2,3,3,3,3,4,5])) ```

3	Write a function that accepts a comma separated sequence of words as argument and returns a string which contains words in a comma-separated sequence after sorting the words alphabetically. Sample input: "hi,how,are,you?" Sample output: "are,hi,how,you?" Solution: def f1(s): return ",".join(sorted(s.split(","))) print(f1("hi,how,are,you?"))
4	Write a function to achieve the following. Create a dictionary of lists given two lists. Sample Input: a = ['karnataka', 'tamilnad', 'karnataka', 'karnataka', 'tamilnad', 'kerala'] b = ['mysore', 'chennai', 'hassan', 'shimoga', 'madurai', 'trivandrum'] Sample output: d = { 'karnataka' : ['mysore', 'hassan', 'shimoga'], 'tamilnad' : ['chennai', 'madurai'], 'kerala' : ['trivandrum'] } **Solution:** a = ['karnataka', 'tamilnad', 'karnataka', 'karnataka', 'tamilnad', 'kerala'] b = ['mysore', 'chennai', 'hassan', 'shimoga', 'madurai', 'trivandrum'] def dictionary_fun(a,b): d = {} for i in range(len(a)) : k = a[i] if k not in d : d[k] = [] d[k].append(b[i]) print(d) dictionary_fun(a,b)
5	Given two lists as arguments (marks and names), write a function to return a list of tuples containing the highest marks and its corresponding name. Sample input: x = [90, 70, 95, 60, 95, 95]

	y = ['a', 'b', 'c', 'd', 'e', 'f'] Sample Output: [('c', 95), ('e', 95), ('f', 95)] Solution: def find_all_pairs(namelist, markslist) : # find max m = max(markslist) pos = markslist.index(m) res = [] l = len(markslist) for i in range(pos, l): if markslist[i] == m : res.append((namelist[i], m)) return res x = [90, 70, 95, 60, 95, 95] y = ['a', 'b', 'c', 'd', 'e', 'f'] print(find_all_pairs(y, x))
6	Write a Python function that takes a number as a parameter and check the number is prime or not. Note : A prime number (or a prime) is a natural number greater than 1 and that has no positive divisors other than 1 and itself. Solution: def test_prime(n): if (n==1): return False elif (n==2): return True; else: for x in range(2,n): if(n % x==0): return False return True print(test_prime(11))