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Program : Quest1 – Basic Python

```python
# Basic Python Quest
# When returning lists of values, order is not important unless specified


__STUDENT_ID__  = "47444609"     # replace with your 8 digit student id
__CODING_NAME__ = "Code Gladiator"       # replace with your coding name -


def isSorted(list):
    isListSorted = True
    for i in range(1, len(list)):
        if (list[i] < list[i-1]):
            return False
    return isListSorted



def isSortedAndUnique(list):
    isListSortedAndUnique = True
    for i in range(1, len(list)):
        if (list[i] <= list[i - 1]):
            return False
    return isListSortedAndUnique



def hasUniqueValues(list):
    hasUniqueValues = True
    dict = {}
    for i in range(0, len(list)):
        if list[i] in dict:
            return False
        else:
            dict[list[i]] = 1
    return hasUniqueValues
```

```python
def genSortedArrayUniqueValues(list):
    for i in range(0, len(list) - 1):
        for j in range(i+1, len(list) - 1):
            if (list[j] > list[j + 1]):
                list[j], list[j + 1] = list[j + 1], list[j]


    sortedUniqueArray = []
    sortedUniqueArray.append(list[0])
    for i in range(0, len(list)):
        if (list[i] > list[i - 1]):
            sortedUniqueArray.append(list[i])
    return sortedUniqueArray



def listToMapTwoByTwo(list):
    dict = {}
    for i in range(0, len(list) - 1 , 2):
        dict[list[i]] = list[i + 1]
    return dict


def wordsInStringToDictWordCount(s):
    splitWords = s.split()
    dict = {}
    for i in range(0, len(splitWords)):
        if splitWords[i] in dict:
            dict[splitWords[i]] = dict.get(splitWords[i]) + 1
        else:
            dict[splitWords[i]] = 1
    return dict



def reverseWordsInString(string):
    splitWords = string.split()
    reverseString = splitWords[len(splitWords) - 1]
    for i in range(len(splitWords) - 2, -1, -1):
        reverseString = reverseString + " " + splitWords[i]
    return reverseString
```

```python
def genListOfOverlaps(list1, list2):
    overlappingLists = []
    for i in range(0, len(list1)):
        for j in range(0, len(list2)):
            if(list1[i] == list2[j]):
                overlappingLists.append(list1[i])
                break

    return genSortedArrayUniqueValues(overlappingLists)



def removeDupsNoSet(list):
    dict = {}
    noDuplicateSet = []
    for i in range(0, len(list)):
        if list[i] in dict:
            dict[list[i]] = dict.get(list[i]) + 1
        else:
            dict[list[i]] = 1
    for key in dict.keys():
        noDuplicateSet.append(key)
    return noDuplicateSet



def removeDupsUseSet(list1):
    return list(set(list1))

if __name__ == '__main__':
    print ('ready to go')
```

OUTPUT SCREENSHOT

```
●  ●  ●  ▢  AdvancedApplProgramming — ssh dgogri@genuse26.lyle.smu.edu — 80×36


****************************************************

[dgogri@genuse26.engr.smu.edu$ pytest -x -vv                                  ]
=========================== test session starts ============================
platform linux -- Python 3.5.2, pytest-3.3.0, py-1.5.2, pluggy-0.6.0 -- /usr/loc
al/es6/bin/python3.5
cachedir: .cache
rootdir: /users7/csegrad/dgogri, inifile:
collected 22 items

test_basicPythonQuest.py::test_isSorted1 PASSED                         [  4%]
test_basicPythonQuest.py::test_isSorted2 PASSED                         [  9%]
test_basicPythonQuest.py::test_isSorted3 PASSED                         [ 13%]
test_basicPythonQuest.py::test_isSortedAndUnique1 PASSED                [ 18%]
test_basicPythonQuest.py::test_isSortedAndUnique2 PASSED                [ 22%]
test_basicPythonQuest.py::test_isSortedAndUnique3 PASSED                [ 27%]
test_basicPythonQuest.py::test_hasUniqueValues1 PASSED                  [ 31%]
test_basicPythonQuest.py::test_hasUniqueValues2 PASSED                  [ 36%]
test_basicPythonQuest.py::test_hasUniqueValues3 PASSED                  [ 40%]
test_basicPythonQuest.py::test_genSortedArrayUniqueValues1 PASSED       [ 45%]
test_basicPythonQuest.py::test_genSortedArrayUniqueValues2 PASSED       [ 50%]
test_basicPythonQuest.py::test_listToMapTwoByTwo1 PASSED                [ 54%]
test_basicPythonQuest.py::test_listToMapTwoByTwo2 PASSED                [ 59%]
test_basicPythonQuest.py::test_listToMapTwoByTwo3 PASSED                [ 63%]
test_basicPythonQuest.py::test_wordsInStringToDictWordCount1 PASSED     [ 68%]
test_basicPythonQuest.py::test_wordsInStringToDictWordCount2 PASSED     [ 72%]
test_basicPythonQuest.py::test_reverseWordsInString1 PASSED             [ 77%]
test_basicPythonQuest.py::test_genListOfOverlaps1 PASSED                [ 81%]
test_basicPythonQuest.py::test_genListOfOverlaps2 PASSED                [ 86%]
test_basicPythonQuest.py::test_genListOfOverlaps3 PASSED                [ 90%]
test_basicPythonQuest.py::test_removeDupsNoSet1 PASSED                  [ 95%]
test_basicPythonQuest.py::test_removeDupsUseSet1 PASSED                 [100%]


========================= 22 passed in 0.16 seconds =========================
dgogri@genuse26.engr.smu.edu$ ▊
```