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1 Basic Test Results

```
1 Starting tests...
2 Wed Dec  4 23:03:04 IST 2013
3 c075f33f7762614f48c8fba48b31d5fe98bcbf07 -
4
5
6 oneliners.py
7 README
8
9 Testing README...
10 Done testing README...
11
12 Testing oneliners.py...
13 result_code    unisort      27    1
14 result_code    wordmap     14    1
15 result_code    intersection 25    1
16 result_code    palindrome   44    1
17 result_code    difference   25    1
18 result_code    dotproduct   46    1
19 result_code    wordlong     12    1
20 result_code    generator    15    1
21 Process Process-209:
22 Traceback (most recent call last):
23   File "/usr/lib/python3.3/multiprocessing/process.py", line 258, in _bootstrap
24     self.run()
25   File "/usr/lib/python3.3/multiprocessing/process.py", line 95, in run
26     self._target(*self._args, **self._kwargs)
27   File "/cs/course/2013/intro2cs/testers/lib/autotest.py", line 66, in wrap
28     res=target(*args, **kwargs)
29   File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 43, in import_runner_generator
30     retval,res = import_runner(modulename, fname, args, kwargs)
31   File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 31, in import_runner
32     func = getattr(module, fname)
33 AttributeError: 'module' object has no attribute 'gimme_a_genexp'
34 Exited following signal -1
35 result_code    genexp_0     signaled    1
36 Process Process-210:
37 Traceback (most recent call last):
38   File "/usr/lib/python3.3/multiprocessing/process.py", line 258, in _bootstrap
39     self.run()
40   File "/usr/lib/python3.3/multiprocessing/process.py", line 95, in run
41     self._target(*self._args, **self._kwargs)
42   File "/cs/course/2013/intro2cs/testers/lib/autotest.py", line 66, in wrap
43     res=target(*args, **kwargs)
44   File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 43, in import_runner_generator
45     retval,res = import_runner(modulename, fname, args, kwargs)
46   File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 31, in import_runner
47     func = getattr(module, fname)
48 AttributeError: 'module' object has no attribute 'gimme_a_genexp'
49 Exited following signal -1
50 result_code    genexp_1     signaled    1
51 Process Process-211:
52 Traceback (most recent call last):
53   File "/usr/lib/python3.3/multiprocessing/process.py", line 258, in _bootstrap
54     self.run()
55   File "/usr/lib/python3.3/multiprocessing/process.py", line 95, in run
56     self._target(*self._args, **self._kwargs)
57   File "/cs/course/2013/intro2cs/testers/lib/autotest.py", line 66, in wrap
58     res=target(*args, **kwargs)
59   File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 43, in import_runner_generator
```

```

60     retval,res = import_runner(modulename, fname, args, kwargs)
61     File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 31, in import_runner
62     func = getattr(module, fname)
63 AttributeError: 'module' object has no attribute 'gimme_a_genexp'
64 Exited following signal -1
65 result_code    genexp_2    signaled    1
66 Process Process-212:
67 Traceback (most recent call last):
68   File "/usr/lib/python3.3/multiprocessing/process.py", line 258, in _bootstrap
69     self.run()
70   File "/usr/lib/python3.3/multiprocessing/process.py", line 95, in run
71     self._target(*self._args, **self._kwargs)
72   File "/cs/course/2013/intro2cs/testers/lib/autotest.py", line 66, in wrap
73     res=target(*args, **kwargs)
74   File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 43, in import_runner_generator
75     retval,res = import_runner(modulename, fname, args, kwargs)
76   File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 31, in import_runner
77     func = getattr(module, fname)
78 AttributeError: 'module' object has no attribute 'gimme_a_genexp'
79 Exited following signal -1
80 result_code    genexp_3    signaled    1
81 Process Process-213:
82 Traceback (most recent call last):
83   File "/usr/lib/python3.3/multiprocessing/process.py", line 258, in _bootstrap
84     self.run()
85   File "/usr/lib/python3.3/multiprocessing/process.py", line 95, in run
86     self._target(*self._args, **self._kwargs)
87   File "/cs/course/2013/intro2cs/testers/lib/autotest.py", line 66, in wrap
88     res=target(*args, **kwargs)
89   File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 43, in import_runner_generator
90     retval,res = import_runner(modulename, fname, args, kwargs)
91   File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 31, in import_runner
92     func = getattr(module, fname)
93 AttributeError: 'module' object has no attribute 'gimme_a_genexp'
94 Exited following signal -1
95 result_code    genexp_4    signaled    1
96 Process Process-214:
97 Traceback (most recent call last):
98   File "/usr/lib/python3.3/multiprocessing/process.py", line 258, in _bootstrap
99     self.run()
100  File "/usr/lib/python3.3/multiprocessing/process.py", line 95, in run
101    self._target(*self._args, **self._kwargs)
102  File "/cs/course/2013/intro2cs/testers/lib/autotest.py", line 66, in wrap
103    res=target(*args, **kwargs)
104  File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 43, in import_runner_generator
105    retval,res = import_runner(modulename, fname, args, kwargs)
106  File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 31, in import_runner
107    func = getattr(module, fname)
108 AttributeError: 'module' object has no attribute 'gimme_a_genexp'
109 Exited following signal -1
110 result_code    genexp_5    signaled    1
111 Process Process-215:
112 Traceback (most recent call last):
113   File "/usr/lib/python3.3/multiprocessing/process.py", line 258, in _bootstrap
114     self.run()
115   File "/usr/lib/python3.3/multiprocessing/process.py", line 95, in run
116     self._target(*self._args, **self._kwargs)
117   File "/cs/course/2013/intro2cs/testers/lib/autotest.py", line 66, in wrap
118     res=target(*args, **kwargs)
119   File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 43, in import_runner_generator
120     retval,res = import_runner(modulename, fname, args, kwargs)
121   File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 31, in import_runner
122     func = getattr(module, fname)
123 AttributeError: 'module' object has no attribute 'gimme_a_genexp'
124 Exited following signal -1
125 result_code    genexp_6    signaled    1
126 Process Process-216:
127 Traceback (most recent call last):

```

```

128 File "/usr/lib/python3.3/multiprocessing/process.py", line 258, in _bootstrap
129     self.run()
130 File "/usr/lib/python3.3/multiprocessing/process.py", line 95, in run
131     self._target(*self._args, **self._kwargs)
132 File "/cs/course/2013/intro2cs/testers/lib/autotest.py", line 66, in wrap
133     res=target(*args, **kwargs)
134 File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 43, in import_runner_generator
135     retval,res = import_runner(modulename, fname, args, kwargs)
136 File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 31, in import_runner
137     func = getattr(module, fname)
138 AttributeError: 'module' object has no attribute 'gimme_a_genexp'
139 Exited following signal -1
140 result_code    genexp_7    signaled    1
141 Process Process-217:
142 Traceback (most recent call last):
143   File "/usr/lib/python3.3/multiprocessing/process.py", line 258, in _bootstrap
144       self.run()
145   File "/usr/lib/python3.3/multiprocessing/process.py", line 95, in run
146       self._target(*self._args, **self._kwargs)
147   File "/cs/course/2013/intro2cs/testers/lib/autotest.py", line 66, in wrap
148       res=target(*args, **kwargs)
149   File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 43, in import_runner_generator
150       retval,res = import_runner(modulename, fname, args, kwargs)
151   File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 31, in import_runner
152       func = getattr(module, fname)
153   AttributeError: 'module' object has no attribute 'gimme_a_genexp'
154 Exited following signal -1
155 result_code    genexp_8    signaled    1
156 Process Process-218:
157 Traceback (most recent call last):
158   File "/usr/lib/python3.3/multiprocessing/process.py", line 258, in _bootstrap
159       self.run()
160   File "/usr/lib/python3.3/multiprocessing/process.py", line 95, in run
161       self._target(*self._args, **self._kwargs)
162   File "/cs/course/2013/intro2cs/testers/lib/autotest.py", line 66, in wrap
163       res=target(*args, **kwargs)
164   File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 43, in import_runner_generator
165       retval,res = import_runner(modulename, fname, args, kwargs)
166   File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 31, in import_runner
167       func = getattr(module, fname)
168   AttributeError: 'module' object has no attribute 'gimme_a_genexp'
169 Exited following signal -1
170 result_code    genexp_9    signaled    1
171 Process Process-219:
172 Traceback (most recent call last):
173   File "/usr/lib/python3.3/multiprocessing/process.py", line 258, in _bootstrap
174       self.run()
175   File "/usr/lib/python3.3/multiprocessing/process.py", line 95, in run
176       self._target(*self._args, **self._kwargs)
177   File "/cs/course/2013/intro2cs/testers/lib/autotest.py", line 66, in wrap
178       res=target(*args, **kwargs)
179   File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 43, in import_runner_generator
180       retval,res = import_runner(modulename, fname, args, kwargs)
181   File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 31, in import_runner
182       func = getattr(module, fname)
183   AttributeError: 'module' object has no attribute 'gimme_a_genexp'
184 Exited following signal -1
185 result_code    genexp_10   signaled    1
186 Process Process-220:
187 Traceback (most recent call last):
188   File "/usr/lib/python3.3/multiprocessing/process.py", line 258, in _bootstrap
189       self.run()
190   File "/usr/lib/python3.3/multiprocessing/process.py", line 95, in run
191       self._target(*self._args, **self._kwargs)
192   File "/cs/course/2013/intro2cs/testers/lib/autotest.py", line 66, in wrap
193       res=target(*args, **kwargs)
194   File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 43, in import_runner_generator
195       retval,res = import_runner(modulename, fname, args, kwargs)

```

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196     File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 31, in import_runner
197         func = getattr(module, fname)
198 AttributeError: 'module' object has no attribute 'gimme_a_genexp'
199 Exited following signal -1
200 result_code    genexp_11    signaled    1
201 Process Process-221:
202 Traceback (most recent call last):
203     File "/usr/lib/python3.3/multiprocessing/process.py", line 258, in _bootstrap
204         self.run()
205     File "/usr/lib/python3.3/multiprocessing/process.py", line 95, in run
206         self._target(*self._args, **self._kwargs)
207     File "/cs/course/2013/intro2cs/testers/lib/autotest.py", line 66, in wrap
208         res=target(*args, **kwargs)
209     File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 43, in import_runner_generator
210         retval,res = import_runner(modulename, fname, args, kwargs)
211     File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 31, in import_runner
212         func = getattr(module, fname)
213 AttributeError: 'module' object has no attribute 'gimme_a_genexp'
214 Exited following signal -1
215 result_code    genexp_12    signaled    1
216 Process Process-222:
217 Traceback (most recent call last):
218     File "/usr/lib/python3.3/multiprocessing/process.py", line 258, in _bootstrap
219         self.run()
220     File "/usr/lib/python3.3/multiprocessing/process.py", line 95, in run
221         self._target(*self._args, **self._kwargs)
222     File "/cs/course/2013/intro2cs/testers/lib/autotest.py", line 66, in wrap
223         res=target(*args, **kwargs)
224     File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 43, in import_runner_generator
225         retval,res = import_runner(modulename, fname, args, kwargs)
226     File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 31, in import_runner
227         func = getattr(module, fname)
228 AttributeError: 'module' object has no attribute 'gimme_a_genexp'
229 Exited following signal -1
230 result_code    genexp_13    signaled    1
231 Process Process-223:
232 Traceback (most recent call last):
233     File "/usr/lib/python3.3/multiprocessing/process.py", line 258, in _bootstrap
234         self.run()
235     File "/usr/lib/python3.3/multiprocessing/process.py", line 95, in run
236         self._target(*self._args, **self._kwargs)
237     File "/cs/course/2013/intro2cs/testers/lib/autotest.py", line 66, in wrap
238         res=target(*args, **kwargs)
239     File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 43, in import_runner_generator
240         retval,res = import_runner(modulename, fname, args, kwargs)
241     File "/a/fr-05/vol/home/course/2013/intro2cs/testers/ex6/tests.py", line 31, in import_runner
242         func = getattr(module, fname)
243 AttributeError: 'module' object has no attribute 'gimme_a_genexp'
244 Exited following signal -1
245 result_code    genexp_14    signaled    1
246 result_code    genexp      0      1
247 result_code    randstr     8      1
248 Done testing oneliners.py
249
250 Grading summary
251 -----
252 ***** palindrome:
253 Number of failed tests: 0
254 Total number of tests : 44
255 Penalty: 0.0
256 ***** unisort:
257 Number of failed tests: 0
258 Total number of tests : 27
259 Penalty: 0.0
260 ***** dotproduct:
261 Number of failed tests: 0
262 Total number of tests : 46
263 Penalty: 0.0

```

```
264 ***** intersection:
265 Number of failed tests: 0
266 Total number of tests : 25
267 Penalty: 0.0
268 ***** difference:
269 Number of failed tests: 0
270 Total number of tests : 25
271 Penalty: 0.0
272 ***** wordmap:
273 Number of failed tests: 0
274 Total number of tests : 14
275 Penalty: 0.0
276 ***** wordlong:
277 Number of failed tests: 0
278 Total number of tests : 12
279 Penalty: 0.0
280 ***** generator:
281 Number of failed tests: 0
282 Total number of tests : 15
283 Penalty: 0.0
284 ***** randstr:
285 Number of failed tests: 0
286 Total number of tests : 8
287 Penalty: 0.0
288 ***** genexp:
289 Number of passed tests: 0
290 Total number of tests : 15
291 Bonus: 0.0
292 *****
293 Expected automatic grade: 100.0
294 *****
295 Submission passed!
296 Tests completed
```

2 aaa expected autograde

```
1 Grading summary
2 -----
3 ***** palindrome:
4 Number of failed tests: 0
5 Total number of tests : 44
6 Penalty: 0.0
7 ***** unisort:
8 Number of failed tests: 0
9 Total number of tests : 27
10 Penalty: 0.0
11 ***** dotproduct:
12 Number of failed tests: 0
13 Total number of tests : 46
14 Penalty: 0.0
15 ***** intersection:
16 Number of failed tests: 0
17 Total number of tests : 25
18 Penalty: 0.0
19 ***** difference:
20 Number of failed tests: 0
21 Total number of tests : 25
22 Penalty: 0.0
23 ***** wordmap:
24 Number of failed tests: 0
25 Total number of tests : 14
26 Penalty: 0.0
27 ***** wordlong:
28 Number of failed tests: 0
29 Total number of tests : 12
30 Penalty: 0.0
31 ***** generator:
32 Number of failed tests: 0
33 Total number of tests : 15
34 Penalty: 0.0
35 ***** randstr:
36 Number of failed tests: 0
37 Total number of tests : 8
38 Penalty: 0.0
39 ***** genexp:
40 Number of passed tests: 0
41 Total number of tests : 15
42 Bonus: 0.0
43 *****
44 Expected automatic grade: 100.0
45 *****
46 Submission passed!
```

3 aaa hint result.png



4 README

```
1 roigreenberg
2 305571234
3 roi greenberg
4
5 =====
6 = README for ex6: One Liners =
7 =====
8
9
10
11 =====
12 = Description: =
13 =====
14
15 in oneliners.py I implement several tasks:
16
17 is_two_palindrome: The function tests if the given string is a two palindrome or not.
18                     A string is a palindrome if reversing it does not change it.
19
20 uni_sort:          The function combines two unsorted lists of integers into one sorted list.
21
22 dot_product:       The function returns the dot product of two vectors, represented as lists.
23
24 list_intersection: The function combines two unsorted lists of integers into one sorted.
25                     list contain exactly those integers that appear in both input lists.
26
27 list_difference:   The function combines two unsorted lists of integers into one sorted
28                     list contain only those integers that appear in just one of the input lists.
29
30 random_string:     The function generates a random string of a given length using only lower-case characters
31                     I have used the imports randint (from module random) and string
32                     1)randint - I used randint in order to create a random letter by giving chr() a random number in the
33                         range of numbers that represent lower-case letters.
34                     2)string - i used "join" from the string module in order to convert the list of the random letters
35                         into a string as requested
36
37 word_mapper:       The function returns a dictionary mapping from the words in the
38                     input text to their number appearances
39                     I have used the import re
40                     By using re.sub() I could convert every nonletter in the string(converted to lower-case letters)
41                         into a whitespaces then I could use .split in order to create a list containing only the words
42                         from the string.
43
44 gimme_a_value:     The function create a generator that gets two inputs, a function(f) and a starting point (x0).
45                     The generator computes a sequence of values (x1,x2...) of the function.
46                     For all i>=0 The i-th call to the generator returns the value x(i)=f(x(i-1))
47                     The first call returns x0 (the initial value)
48
49 =====
50 = List of submitted files: =
51 =====
52
53 README            This file
54 oneliners.py       Implement several tasks in only one or very few code line
55
56 =====
57 = Special Comments =
58 =====
```

5 oneliners.py

```
1 #####
2 # FILE: oneliners.py
3 # WRITER: Roi Greenberg + roigreenberg + 305571234
4 # EXERCISE : intro2cs ex6 2013-2014
5 # Description: implement some tasks in one or few code line.
6 #####
7
8 def is_two_palindrome(string):
9     """The function tests if the given string is a two palindrome or not.
10        A string is a palindrome if reversing it does not change it
11
12    Args:
13        - string:String of any length . The string may include punctuation,
14          spaces, and other symbols
15
16    The function return True if the string is a two palindrome and
17    False in not. """
18
19    return True if len(string)==1 else \
20        string[:len(string)//2]==\
21        string[len(string)//2-1::-1]\
22        and string[len(string)-(len(string)//2):]==\
23        string[:len(string)-(len(string)//2)-1:-1]
24
25
26 def uni_sort(list_1,list_2):
27     """The function combines two unsorted lists of integers into one
28        sorted list
29
30    Args:
31        - list_1:List of integers
32        - list_2:List of integers
33
34    The function return a new sorted list with the number from both lists,
35    without duplicates"""
36    # create a new empty list:
37    combine_list=[]
38    return combine_list.extend(num for num in (list_1 + list_2)\
39                                if num not in combine_list) or \
40        sorted(combine_list)
41
42 def dot_product(vector_1,vector_2):
43     """The function returns the dot product of two vectors, represented
44        as lists
45
46    Args:
47        - vector_1:List of integers(representing vector)
48        - vector_2:List of integers(representing vector)
49
50    The function return the result of the dot product of the two
51    input vectors"""
52
53    return sum(num_vector_1*num_vector_2 for num_vector_1,num_vector_2\
54              in zip(vector_1,vector_2))
55
56 def list_intersection(list_1,list_2):
57     """The function combines two unsorted lists of integers into one sorted
58        list contain exactly those integers that appear in both input lists.
59
```

You could have done this more efficiently by sorting the list and then removing the duplicates ($O(n \log n)$ instead of $O(n^2)$). Also, that's a strange way to sort the list - why not just call sorted on the entire expression?

```

60     Args:
61     - list_1:List of integers
62     - list_2:List of integers
63
64     The function return a new sorted list only with the number that contain in
65     both lists, without duplicates"""
66     return sorted(list(set(num for num in list_1+list_2 \
67                             if num in list_1 and num in list_2)))
68
69 def list_difference(list_1,list_2):
70     """The function combines two unsorted lists of integers into one
71         sorted list contain only those integers that appear in just one of
72         input lists
73
74     Args:
75     - list_1:List of integers
76     - list_2:List of integers
77
78     The function return a new sorted list only with the numbers appear in just
79     just one of the lists, without duplicates"""
80     return sorted(list(set(num for num in list_1+list_2 if \
81                             ((num in list_1 and num not in list_2) or\
82                             (num in list_2 and num not in list_1)))))
83
84 def random_string(number):
85     """The function generates a random string of a given length using only
86         lower-case characters.
87
88     Args:
89     - number: An integer denoting the length of the output random string
90
91     The function return A random string of length N"""
92
93     from random import randint
94     return ''.join((chr(randint(97,122))) for i in range(number))
95
96
97 def word_mapper(string):
98     """The function returns a dictionary mapping from the words in the
99         input text to their number appearances
100
101     Args:
102     - string: A string of words separated by whitespace and/or punctuation
103         marks.
104
105     The function return a dictionary containing a mapping between words
106     (as keys) and the number of times they appear in the original input
107     string (as value)."""
108
109     import re
110     # create a list containing only the words converting to lower-case chars
111     word_list=re.sub("[\W_]", " ", string.lower()).split()
112     return dict([(word,word_list.count(word)) for word in word_list])
113
114 def gimme_a_value(function,start_value):
115     """the function create a generator that gets two inputs, a function(f) and
116         a starting point (x0).
117     The generator computes a sequence of values (x1,x2...) of the function.
118     For all i>=0 The i-th call to the generator returns the value x(i)=f(x(i-1))
119     The first call returns x0 (the initial value)
120
121     Args:
122     - function: A math function
123     - start_value: the initial value, x0
124
125     The function return The next element in the sequence generated by applying
126     the function to the previous element. The first returned value is x0"""
127

```

In these tasks you could have also used the operators & and ^.

You didn't have to check that num was in list_1 and list_2 - it was enough to check that it wasn't in one of them (You already know that it's in at least one of them.)

+2 bonus.

```
128     # returns x0 (the initial value)
129     yield start_value
130
131     # run endlessly
132     while True:
133         yield function(start_value)
134         # change the start value to the next value
135         start_value=function(start_value)
```