

✓ Congratulations! You passed!

TO PASS 80% or higher

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GRADE  
84.61%

## Practice Python Assessment I

TOTAL POINTS 13

1. Which of the following list comprehensions will extract all tuples in `words` that have origins that are Greek? Select as many as apply.

2 / 2 points

```
1 words= [("time", ("Noun"), ("Middle English")),
2      ("take", ("Verb"), ("Gothic")),
3      ("people", ("Noun"), ("Latin")),
4      ("think", ("Verb", "Adjective"), ("Gothic")),
5      ("work", ("Noun", "Verb", "Adjective"), ("Greek", "Gothic")),
6      ("company", ("Noun"), ("Late Latin")),
7      ("problem", ("Noun", "Adjective"), ("Greek")),
8      ("feel", ("Verb", "Noun"), ("Old Norse")),
9      ("public", ("Adjective", "Noun"), ("Latin")),
10     ("aberration", ("Noun"), ("Latin")),
11     ("annul", ("Verb"), ("Latin")),
12     ("cacophony", ("Noun"), ("Greek")),
13     ("grovel", ("Verb"), ("Old Norse")),
14     ("muse", ("Noun", "Verb"), ("Greek", "Middle French")),
15     ("sublime", ("Adjective", "Noun", "Verb"), ("Latin")),
16     ("vilify", ("Verb"), ("Late Latin")),
17     ("diffuse", ("Verb", "Adjective"), ("Latin")),
18     ("elucidate", ("Verb"), ("Late Latin")),
19     ("flout", ("Verb", "Noun"), ("Middle English")),
20     ("grouse", ("Verb", "Noun"), ("")),
21     ("limpid", ("Adjective"), ("Latin")),
22     ("nexus", ("Noun"), ("Latin")),
23     ("quibble", ("Verb", "Noun"), ("?")),
24     ("verbose", ("Adjective"), ("Latin")),
25     ("catalyst", ("Noun"), ("")),
26     ("nocturnal", ("Adjective"), ("Late Latin")),
27     ("diurnal", ("Adjective", "Noun"), ("Latin")),
28     ("malapropism", ("Noun"), ("English"))]
```

greek\_origins = [data for data in words if "Greek" in data[-1]]

✓ Correct

topics to review: list comprehensions, extracting data from tuples, conditionals

greek\_origins = [data for data in words if data[-1] == "Greek"]

greek\_origins = [data for data in words if data[2] in "Greek"]

greek\_origins = [data for data in words if "Greek" in data[2]]

✓ Correct

topics to review: list comprehensions, extracting data from tuples, conditionals

2. Which of the following lines of code will sort the list of tuples called `circus` by the values stored in the fifth item in each tuple from highest to lowest? (Note that when we say fifth we mean what a human would consider fifth.)

1 / 1 point

sorted(circus, lambda z: z[4], True)

sorted(circus, key = lambda d: d[4], reverse = True)

✓ Correct

Topics to review: sorting, key parameters, indexing with tuples

sorted(circus, key = lambda c: circus[4], reverse = True)

sorted(circus, key = lambda d: d[4], reverse = False)

3. Which of the following functions would create a dictionary that keeps track of the frequency of each letter in the string that is provided as input, and returns that dictionary?

2 / 2 points

```
1 def freq_of_chars(s):
2     d = {}
3     for wrd in s.split():
4         for char in wrd:
5             if char in d:
6                 d[char] += 1
7             else:
8                 d[char] = 0
```

```

1 def freq_of_chars(s):
2     d = {}
3     for wrd in s:
4         if char not in d:
5             | d[char] = 0
6             | d[char] += 1
7     return d
8

```

```

1 def freq_of_chars(s):
2     d = {}
3     for wrd in s.split():
4         for char in wrd:
5             if char not in d:
6                 | d[char] = 1
7             else:
8                 | d[char] += 1
9

```

✓ Correct

Topics to review: function definition, return statements, conditionals, dictionaries, nested for loops

```

1 def freq_of_chars(s):
2     d = {}
3     for wrd in s.split():
4         for char in wrd:
5             if char in wrd:
6                 d[char] += 1
7             else:
8                 d[char] = 1
9

```

4. Which of the following while loops has an infinite loop? Select as many as apply.

1 / 1 point

```

1 z = "newspaper stand? It's across the way."
2 t = 0
3 while t <= len(z):
4     print(z[t])
5     if z[t] in [".", ",", "!", "?"]:
6         print(t)
7         break
8     t += 1
9

```

```

1 x = 13.0
2 while True:
3     print(x)
4     if x > 15.0:
5         break
6     x += 0.5
7

```

```

1 while True:
2     input = ("enter a number")
3     print(input)
4

```

✓ Correct

Topics to review: while loops, input, infinite loops

```

1 while False:
2     input = ("enter a number")
3     print(input)
4

```

5. Which of the following child classes (called Magic) will properly inherit from the Character parent class while **adding** in the ability to keep a list of magic spells, where each spell is an object of the Magic class? Please note: the solution must not override the parent class attribute values and it **must** allow the program to set all parent class attribute values in the constructor when creating a new instance of the Magic class.

1 / 1 point

Select as many as apply.

```

1 class Character():
2     def __init__(self, name, height, alignment, level = 1, health = 50):
3         self.name = name
4         self.height = height
5         self.alignment = alignment
6         self.level = level

```

```

7     self.health = health
8
9     def init_skills(self, strength, dext, intel, wisdom, charm):
10    self.strength = strength,
11    self.dexterity = dext
12    self.intelligence = intel
13    self.wisdom = wisdom
14    self.charm = charm
15
16    def backstory(self, history):
17        try:
18            if self.backstory[-1] != " ":
19                self.backstory = self.backstory + " " + history
20            else:
21                self.backstory += history
22        except:
23            self.backstory = history
24

```

1 class Magic(Character):  
2  
3 def add\_Spell(self, spell):  
4 try:  
5 self.spells.append(spell)  
6 except:  
7 self.spells = [spell]

✓ Correct

Topics to review: Classes, Inheritance, class methods, lists, try/except

1 class Magic(Character):  
2  
3 def \_\_init\_\_(self, name, height, alignment, level = 1, health = 50, spells = []):  
4 Character.\_\_init\_\_(self, name, height, alignment, level = 1, health = 50)  
5 self.spells = spells  
6  
7 def add\_Spell(self, spell):  
8 self.spells.append(spell)  
9

1 class Magic(Character):  
2  
3 def \_\_init\_\_(self, spells):  
4 self.spells = spells  
5  
6 def add\_Spell(self, spell):  
7 self.spells.append(spell)  
8

1 class Magic():  
2  
3 def add\_Spell(self, spell):  
4 try:  
5 self.spells.append(spell)  
6 except:  
7 self.spells = [spell]  
8

1 class Magic(Character):  
2  
3 def \_\_init\_\_(self, name, height, alignment, level = 1, health = 50, spells = []):  
4 Character.\_\_init\_\_(self, name, height, alignment, level, health)  
5 self.spells = spells  
6  
7 def add\_Spell(self, spell):  
8 self.spells.append(spell)  
9

✓ Correct

Topics to review: Classes, Inheritance, class methods, lists, try/except

6. Which of the following functions is **least likely** to break if there is an error when the program makes a request to "exampleapi.com"? Note that we expect for py\_data to hold a dictionary.

1 / 1 point

1 def convert\_data(title):  
2 d = {"t": title}  
3 baseurl = "exampleapi.com"  
4 data = requests.get(baseurl, params = d)  
5 py\_data = json.loads(data.txt)  
6 return py\_data  
7

1 def convert\_data(title):

```

2     d = {"t": title}
3     baseurl = "exampleapi.com"
4     data = requests.get(baseurl, params = d)
5     py_data = json.loads(data.txt)
6     if type(py_data) == type({}):
7         return py_data
8     else:
9         return py_data
10

```

1 def convert\_data(title):
2 d = {"t": title}
3 baseurl = "exampleapi.com"
4 try:
5 data = requests.get(baseurl, params = d)
6 py\_data = json.loads(data.txt)
7 return py\_data
8 except:
9 return None

1 def convert\_data(title):
2 d = {"t": title}
3 baseurl = "exampleapi.com"
4 data = requests.get(baseurl, params = d)
5 try:
6 py\_data = json.loads(data.txt)
7 return py\_data
8 except:
9 return None



Correct  
Topics to review: try/except, requesting data through APIs, loading json data

This answer is least likely to break because the request and conversion of data are stored in the try/except. If something went wrong with the data collection or the conversion to python, then the program would move to the exception.

7. Please fill in the blank so that the following code successfully iterates through the data stored in "makeup\_products" and extracts the total number of shades for items that are meant just for "Lips", storing the total in a variable called "total\_count\_lip\_shades".

0 / 2 points

```

25     },
26     {"Eye Liner": {
27         "Shades": 14,
28         "Styles": 7,
29         "Location": "Eye"
30     }
31 },
32     {"Travel Makeup Kit": {
33         "Shades": "N/A",
34         "Styles": 3,
35         "Location": "Face, Lips, Eye"
36     }
37 },
38     {"Chapstick": {
39         "Shades": 3,
40         "Styles": 7,
41         "Location": "Lips"
42     }
43 }
44 ]
45
46
47 total_count_lip_shades = 0
48 for item in makeup_products["Products"]:
49     for product in item:
50         # your line here
51         shade_count = item[product]["Shades"]
52         total_count_lip_shades += shade_count

```

if(item['Products'][Location] == 'Lips'):



8. Assume that a json-structured string has been stored in a file named "improv\_data.json". Fill in the blank to convert the json string into a python object and store it in the variable improv\_py.

1 / 1 point

4 4 4 4 4

```
1 import json
2 improv_f = open("improv_data.json", "r").read()
3 improv_py = # your code would finish this statement
4 improv_f.close()
```

```
json.loads(improv_f)
```

✓ Correct

For this problem, it would take the string assigned to improv\_f and use json.loads to load the string into a python object.

Topics to review: json, reading from files

9. [Practice Jupyter Notebook] How many lines are in the file list\_of\_books.txt?

1 / 1 point

```
5
```

✓ Correct

This is correct. To determine this, you could count the number of \n that appear in the file, check the length of the list produced by readlines, or count the number of times that the for loop iterates through the file.

10. [Practice Jupyter Notebook] How many copies of Cathy O'Neil's Weapons of Math Destruction are available after hatcher has been defined?

1 / 1 point

```
1
```

✓ Correct

This is correct. We can print out the books attribute and see in the output that the value for available is 1. We could also dig specifically into the nested data and print out the value assigned to the key available, and see that that is 1.