Python 1

Quiz

Introduction:

In this project, you'll learn how to use the data in your programs to make decisions about what to do.

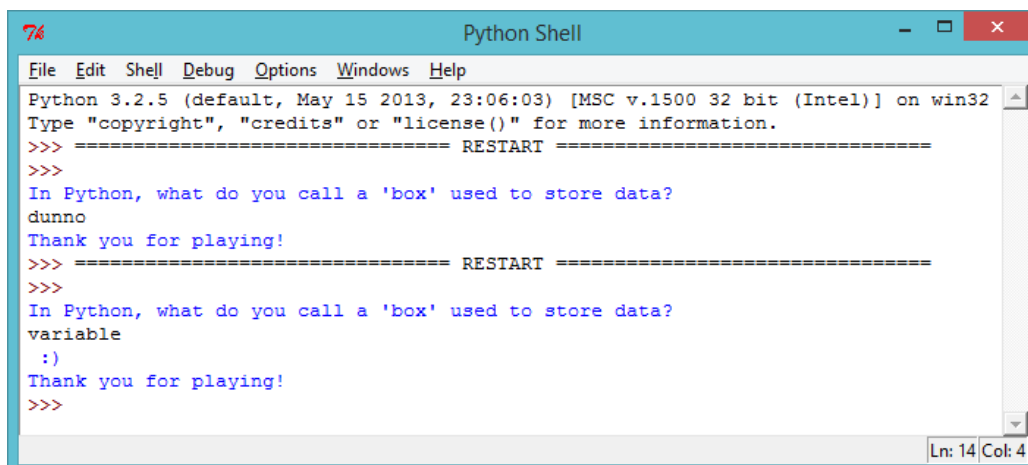|		
✓ **Activity Checklist**	**Follow these INSTRUCTIONS one by one**
🚩 **Test your Project**	**Click on the green flag to TEST your code**
⏏ **Save your Project**	**Make sure to SAVE your work now**

Step 1: Asking a question

✅ Activity Checklist

1. Let's start by writing a very simple quiz program, which asks the player a question, and shows them a smiley face if they input the correct answer.

```python
print("In Python, what do you call a 'box' used to store data?")
answer = input()

if answer == "variable":
    print(" :) ")

print("Thank you for playing!")
```

When writing this program, you'll need to add a colon (`:`) to the end of the line `if answer == "variable":` , and indent the line below it (move it to the right), by pressing the Tab key (to the left of the 'Q' key on the keyboard).

2. Once you've written the program above, try it out twice - once getting the question right, and once getting it wrong. Notice that you don't see a smiley face unless you get the answer right.

```
7% ─────────────────────  Python Shell  ─── _ ☐ ✕
File  Edit  Shell  Debug  Options  Windows  Help
Python 3.2.5 (default, May 15 2013, 23:06:03) [MSC v.1500 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> ============================= RESTART =============================
>>>
In Python, what do you call a 'box' used to store data?
dunno
Thank you for playing!
>>> ============================= RESTART =============================
>>>
In Python, what do you call a 'box' used to store data?
variable
 :)
Thank you for playing!
>>>
                                                              Ln: 14 Col: 4
```

②

This program only runs the indented code (the code that prints the smiley face) if the answer is correct. Notice that the text "Thank you for playing!" isn't indented, and so is printed every time, whether the answer is right or wrong.

Python uses 2 equals signs `==` to check if 2 things are the same. This is because one equals sign `=` is used to store something in a variable (for example `answer = input()`).

3. The program above prints a smiley face if the player gets the question right, but doesn't print anything to tell them they got the answer wrong. You can use an `else` statement to print a sad face if the user inputs anything other than the correct answer.

```python
print("In Python, what do you call a 'box' used to
store data?")
answer = input()

if answer == "variable":
    print(" :) ")
else:
    print(" :( ")

print("Thank you for playing!")
```

Try out this new program, and you can see that unless you enter the correct answer, a sad face is printed.

Challenge: Question time

Use what you've learnt so far to create your own quiz. You can choose any topic you like, and your quiz should use `if` and `else` statements to let the player know how they're doing.

Save Your Project

Step 2: Testing

It's always a good idea to test your programs, to make sure that they work properly.

✅ Activity Checklist

1. If you've tested your quiz, you may have you noticed that it's possible to get a sad face even when you input a correct answer! Like in this example, where the player has accidently presSED CAPS LOCK!


```
Python Shell

File  Edit  Shell  Debug  Options  Windows  Help

Python 3.2.5 (default, May 15 2013, 23:06:03) [MSC v.1500 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> ============================== RESTART ==============================
>>>
In Python, what do you call a 'box' used to store data?
VARIABLE
 :(
Thank you for playing!
>>>
                                                                   Ln: 9 Col: 4
```
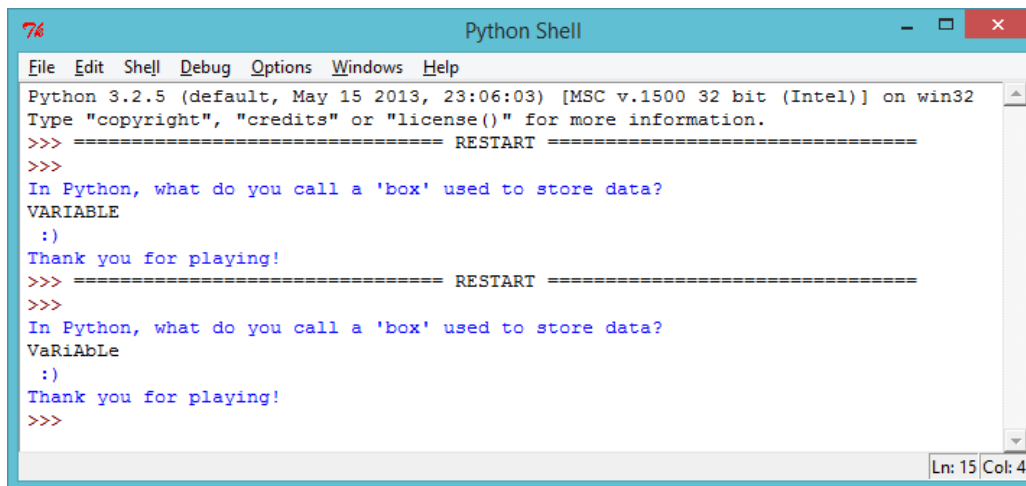
This happens because Python is very strict when it compares the player's answer to the correct answer. To Python, "V" isn't the same as "v", and so if your player uses any capital letters in your answer, Python thinks the answer's wrong!

④

Test this out in your game, to see if the same thing happens.

2. To fix this problem, all you need to do is convert whatever the player inputs into lower case, so that there are no capital letters in the player's answer. Make this change to the line where the player inputs their answer:

```
answer = input().lower()
```

3. Now test your quiz again. Have you fixed the problem?

Challenge: Fixing your quiz

Make sure that your quiz always prints the right message, even if the player inputs capital letters.

Step 3: Multiple choice

✅ Activity Checklist

1. So far you've used `if` and `else` to let the player know if they got the answer right or wrong. But what if you wanted a multiple choice question, where the user could see one of 4 messages? You can use an `elif` statement to do this. ☐

```python
print('''
Q1 - In Python, what do you call a 'box' used to store
data?
a - text
b - variable
c - a shoe box
''')
answer = input().lower()

if answer == "a":
    print(" Nope - text is a type of data :( ")
elif answer == "b":
    print(" Correct!! :) ")
elif answer == "c":
    print(" Don't be silly! :( ")
else:
    print(" You didn't choose a, b or c :( ")
```

`elif` is short for "else if". So in the program above, the player sees one of 4 messages, depending on what they entered for their answer.

2. Add the code above to your quiz, so that you have a multiple choice question. ☐

3. Test this new question 4 times, so that you see each of the 4 messages. ☐

```
7% ─                                        Python Shell                   ─  □   ✕
File  Edit  Shell  Debug  Options  Windows  Help
Python 3.2.5 (default, May 15 2013, 23:06:03) [MSC v.1500 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> ============================== RESTART ==============================
>>>

Q1 - In Python, what do you call a 'box' used to store data?
a - text
b - variable
c - a shoe box

a
 Nope - text is a type of data :(
>>> ============================== RESTART ==============================
>>>

Q1 - In Python, what do you call a 'box' used to store data?
a - text
b - variable
c - a shoe box

b
 Correct!! :)
>>> ============================== RESTART ==============================
>>>

Q1 - In Python, what do you call a 'box' used to store data?
a - text
b - variable
c - a shoe box

c
 Don't be silly! :(
>>> ============================== RESTART ==============================
>>>

Q1 - In Python, what do you call a 'box' used to store data?
a - text
b - variable
c - a shoe box

dunno
 You didn't choose a, b or c :(
>>> |
                                                                      Ln: 43 Col: 4
```

△ Save Your Project

Challenge: Multiple choice quiz

Add a few multiple choice questions to your quiz program. Once you have finished making your quiz, get someone else to play it! How did they do? Did they enjoy it? Was it too easy or too hard?

△ Save Your Project

Challenge: Keeping score

Can you use a `score` variable in your quiz program, to keep track of the player's score? This is how the variable could be used:

- [ ] At the start of the program, set the score to 0.
- [ ] Whenever a question is answered correctly, add 1 to their score. (`score = score + 1`)
- [ ] Print the player's score at the end of the quiz.

Save Your Project

Challenge: How did I do?

Can you print a personalised message to the player at the end of the game?

- [ ] Say "well done" `if` they got all of the questions right.
- [ ] `else` say "try again" if they got any wrong.
   (You'll need to use your `score` variable to decide which message to print!)

Save Your Project