**Why does this code raise an error:**

print("1234"+5678)



Because Python doesn't know how to add a number to a string.

**Correct**

Right on! Python can add a number to a number or a string to a string, but it doesn't know how to add a number to a string.

Because Python doesn't know how to add a number to a string.

is selected.This is correct.

Right on! Python can add a number to a number or a string to a string, but it doesn't know how to add a number to a string.



Because in Python it's only possible to add numbers, not strings.



Because in Python it's not possible to print integers.



Because numbers shouldn't be written between quotes.

Data Types Recap

In Python, text in between quotes -- either single or double quotes -- is a string data type. An integer is a whole number, without a fraction, while a float is a real number that can contain a fractional part. For example, 1, 7, 342 are all integers, while 5.3, 3.14159 and 6.0 are all floats. When attempting to mix incompatible data types, you may encounter a **TypeError**. You can always check the data type of something using the *type()* function.

**Now, it's your turn to give it a try!**

**Fill in the blanks to calculate the area of a triangle of base 5, height 3 and output the result. Reminder: the area of a triangle is (base\*height)/2.**

base = 5

height = 3

area = (base\*height)/2

print(area)

RunReset

Here is your output:

7.5

Awesome! You're harnessing the power of variables in your

scripts!

**Practice writing some expressions and conversions yourself.**

In this scenario, we have a directory with 5 files in it. Each file has a different size: 2048, 4357, 97658, 125, and 8. Fill in the blanks to calculate the average file size by having Python add all the values for you, and then set the files variable to the number of files. Finally, output a message saying "The average size is: " followed by the resulting number. Remember to use the str() function to convert the number into a string.

total = 2048 + 4357 + 97658+ 125 + 8

files = 5

average = total / files

print("The average size is: " + str(average))

RunReset

Here is your output:

The average size is: 20839.2

Nice job! We’re tackling trickier concepts now and you’re

doing great!

Implicit vs Explicit Conversion

As we saw earlier in the video, some data types can be mixed and matched due to implicit conversion. Implicit conversion is where the interpreter helps us out and automatically converts one data type into another, without having to explicitly tell it to do so.

By contrast, explicit conversion is where we manually convert from one data type to another by calling the relevant function for the data type we want to convert to. We used this in our video example when we wanted to print a number alongside some text. Before we could do that, we needed to call the *str()* function to convert the number into a string. Once the number was explicitly converted to a string, we could join it with the rest of our textual string and print the result.

**GRADE**

100%

**Practice Quiz: Expressions and Variables**

**TOTAL POINTS 5**

1.Question 1

In this scenario, two friends are eating dinner at a restaurant. The bill comes in the amount of 47.28 dollars. The friends decide to split the bill evenly between them, after adding 15% tip for the service. Calculate the tip, the total amount to pay, and each friend's share, then output a message saying "Each person needs to pay: " followed by the resulting number.

bill = 47.28

tip = bill \* 0.15

total = bill + tip

share = total/2

print("Each person needs to pay: "+str(share))

RunReset

**Correct**

Great work! You’ve given the computer correct instructions

at each step, paying attention to every detail, and it paid

off!

**1 / 1 point**

2.Question 2

This code is supposed to take two numbers, divide one by another so that the result is equal to 1, and display the result on the screen. Unfortunately, there is an error in the code. Find the error and fix it, so that the output is correct.

numerator = 10

denominator = 10

result = numerator / denominator

print(int(result))

RunReset

**Correct**

You got it!. You caught the error and fixed it! Way to go!

**1 / 1 point**

3.Question 3

Combine the variables to display the sentence "How do you like Python so far?"

word1 = "How"

word2 = "do"

word3 = "you"

word4 = "like"

word5 = "Python"

word6 = "so"

word7 = "far?"

print(word1+" " +word2+" " +word3+" " +word4+" " +word5+" " +word6+" "

  +word7)

RunReset

**Correct**

Nice job! You caught the error and fixed it! Way to go!

**1 / 1 point**

4.Question 4

This code is supposed to display "2 + 2 = 4" on the screen, but there is an error. Find the error in the code and fix it, so that the output is correct.

print("2 + 2 = " + str((2 + 2)))

RunReset

**Correct**

Way to go! You noticed the missing conversion into string,

and fixed it!

**1 / 1 point**

5.Question 5

What do you call a combination of numbers, symbols, or other values that produce a result when evaluated?



An explicit conversion



An expression



A variable



 An implicit conversion

**Correct**

Right on! An expression is a combination of values, variables, operators, and calls to functions.