Python Assignment Solutions

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# 1. The following line won't run because of a syntax error
# Fixed syntax error
print("hi")

# 2. Exercise 2
# The following lines won't run properly,
# even if the syntax error in the line above is corrected,
# because of a run-time error
# Fixed runtime error
print("hello")

# 3. Display a string (greeting message) directly
print ("Hello, welcome to Python!")

# 4. Display the contents of a string variable
message = "This is a string variable"
print(message)

# 5. Display the string which contains single quotes
print ("This is a string with a single quote: 'hello'.")

# 6. Display the string which contains Double Quotes
print ('This is a string with double quotes: "hello".')

# 7. Read two numbers and perform calculations
a = float (input ("Enter the first number: "))
b = float (input ("Enter the second number: "))
# Calculations
add= a + b
sub = a - b
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mul = a * b
div = a / b
power = a ** b

print(add)
print(sub)
print(mul)
print(div)
print(power)

# 8. Check if num1 is an integer
num1 = input ("Enter a number: ")
num1 = float(num1)

# Check if num1 is an integer
if num1.is_integer ():
    print ("num1 is an integer")
else:
    print ("num1 is not an integer")

# 9. Convert num1 to an integer
num1 = input ("Enter a number: ")
num1 = int(float(num1))
print (f"The integer value is: {num1}")

# 10. Find datatype for variables
a = 42
b = 3.14
c = "Hello, world!"
print (f"The datatype of a is: {type(a)}")
print (f"The datatype of b is: {type(b)}")
print (f"The datatype of c is: {type(c)}")
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# 11. Read a float value and print the number rounded to 2 decimal places
a = float (input ("Enter a float number: "))
rounded_a = round (a, 2)
print (f"The number rounded to 2 decimal places is: {rounded_a}")

# 12. Read a float value and print the absolute value
a = float (input ("Enter a float number: "))
absolute_value = abs(a)
print (f"The absolute value is: {absolute_value}")
# 13. Store different types of values in variables
string_value = "Hello"
numeric_value = 56
complex_value = 1 + 2j
list_value = [7, 8, 9]
dict_value = {"key": "value"}
set_value = {1, 2, 3}
tuple_value = (1, 2, 3)
# 14. Find the data type for the above variables
print(type(string_value))
print(type(numeric_value))
print(type(complex_value))
print(type(list_value))
print(type(dict_value))
print(type(set_value))
print(type(tuple_value))
# 15. Display the number of letters in the string
a = "Python"
print(len(a))
# 16. Read first name and last name from the user and combine them
first_name = input ("Enter your first name: ")
last_name = input ("Enter your last name: ")
full_name = first_name + last_name
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a = "Hello, " + full_name + "!"
print(a)
# 17. Display the string with space
a= "Hello"
b= ' '.join(a)
print(b)
# 18. Display first two characters from the name
a = "Cyber"
b = a [:2]
print(f"The first two characters are: {b}")
# 19. Display last three characters from the name
a = "Cyber"
b = a [-3:]
print (f"The last three characters are: {b}")
# 20. Display 3rd character to last character
a = "Cyber Security"
b = a [2:]
print (f"The characters from the 3rd to the last are: {b}")
# 21. Display 3rd to 5th character
a = "Cyber Security"
b = a [2:5]
print (f"The The 3rd to 5th characters are: {b}")
# 22. Create a list of food with two elements
food_list = ["Rice", "Dal"]
print(food_list)
# 23. Add one more to the food list
food_list = ["Rice", "Dal"]
food_list. append("Pasta")
print(food_list)
# 24. Add two more food strings
food_list = ["Rice", "Dal"]
food_list. extend(["keer","salad"])
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print(food_list)
# 25. Count total number of items in the list
food = ["Pizza", "Burger", "Pasta", "Salad", "Sushi"]
total_items = len(food)
print(total_items)
# 26. Print the first two items in food using slicing notation
food = ["Pizza", "Burger", "Pasta", "Salad", "Sushi"]
first_two_items = food [:2]
print (f"The first two items are:{first_two_items}")
# 27. Print the last item in food using index notation
food = ["Pizza", "Burger", "Pasta", "Salad", "Sushi"]
a = food [-1]
print (f"The last item is: {a}")
# 28. Debug: Check if the number is odd or even
num = int (input ("Enter a num: "))
if num % 2 == 0:
    print ("The num is Even.")
else:
    print ("The num is Odd.")
# 29. Debug: Convert Centigrade to Fahrenheit
c = float (input ("Enter temperature in Centigrade: "))
f = 9 * (c / 5) + 32
print ("Temperature in Fahrenheit is:", f)

# 30. Debug: Calculate average of user inputs
count = int (input ("Enter the count of numbers: "))
total_sum = 0
for _ in range(count):
    x = int (input ("Enter an integer: "))
    total_sum += x
avg = total_sum / count
print ("The average is:", avg)
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# 31. Prove strings are immutable and lists are mutable
# Strings are immutable
str_value = "Hello"
try:
    str_value [0] = 'h'
except TypeError as e:
    print (f"Strings are immutable: {e}")

# Lists are mutable
list_value = [1, 2, 3]
list_value [0] = 100
print (f"Lists are mutable: {list_value}")
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