

Addis Coder Quiz 1

Problem 1

What is the correct output for the following statements?

a) `(2 + 2) * (2 - 2)`

In []:

b) `2 % 4 * (1 + 7) / 2.0`

In []:

c) `(1 + 2) * (1 + 7 // 2) ** 2`

In []:

Problem 2

Write the type of the following values.

a) `"Addis!"`

In []:

b) `{"Addis": "Coder"}`

In []:

c) `52`

In []:

d) `52.0`

In []:

e) `["Coder"]`

In []:

f) `True`

In []:

g) `[False, "a", "tomato"]`

In []:

Problem 3

Write whether the following are True or False.

a) `str(3) == "3"`

In []:

b) `bool(True) == 1`

In []:

c) `int("123") != 123`

In []:

Problem 4

What is the proper way of commenting in Python? Circle all that apply.

a) `// This is a comment.`

b) `# This is a comment.`

c) `% This is a comment.`

Problem 5

Circle all the valid variable declarations.

a) `1_var = 5`

b) `5 = var`

c) `addis-coder = "fun"`

d) `addis_coder = 1`

Problem 6

What is the output?

```
w = "Harer"  
x = [12, 15, 16]
```

a) `print(type(w))`

In []:

b) `print(type(x))`

In []:

c) `print(w[1:3])`

In []:

d) `print(x[1:2])`

In []:

Problem 7

What is the output?

```
y = {"Ethiopia": 1, "Addis": 2, "Coder": 3}  
z = [3, [1, 10, "world"], "Coder!"]
```

a) `print(type(y))`

In []:

b) `print(y["Ethiopia"] + y["Addis"])`

In []:

c) `print(len(z[1]))`

In []:

d) `print(z[0] + z[1][0] + y["Coder"])`

In []:

Problem 8

What are the values of x and y ?

a)

```
x = 67
y = x
```

In []:

b)

```
y = 45
x = 0
x += y
```

In []:

c)

```
x = 10
y = 1
x = y
y = x
```

In []:

Problem 9

What are the values of x, y, and z ? Hint: Consider using program tracing.

a)

```
x = 12
y = x
z = 7
y = z + 3
x = 1 + z
z = x + y + z
```

In []:

b)

```
x = [1,2,3]
x[0] = 10
y = x
y[1] = 20
z = x
z[2] = 30
```

In []:

c)

```
x = "BahirDar"
y = x[0:3]
z = x[2:6]
```

In []:

Problem 10

What is the printed value? Read the code carefully!

a)

```
i = 1
i + 1
print(i)
```

In []:

b)

```
my_var = 10
if 0 <= my_var <= 3:
    print("Addis")
elif 4 <= my_var <= 10:
    print("Coder")
```

In []:

c)

```
my_var = 10
if my_var > 0:
    print("Addis ")
if my_var > 4:
    print("Coder")
```

In []:

Problem 11

What is the printed output of the following code?

```
food_cost_birr = 500
debt_owed = 700
bank_account = 1000
if bank_account - debt_owed >= 0:
    print("I might eat!")
    available_balance = bank_account - debt_owed
    if available_balance - food_cost_birr >= 0:
        print("I can eat!")
    else:
        print("I can't eat!")
else:
    if bank_account - debt_owed <= -1000:
        print("I have big debt")
    else:
        print("I have small debt")
```

In []:

Problem 12

The following code should print when x is greater than 10. Rewrite the statement with proper indentation.

```
if x > 10:
print("x is greater than 10")
```

In []:

Problem 13

What is the printed output of the following code snippets? If there is an infinite loop, write "Infinite".

a)

```
num = 0
while num < 6:
    if num % 2 == 0:
        print(num)
    num += 1
```

In []:

b)

```
num = 0
if num % 2 == 0:
    while num < 6:
        print(num)
    num += 1
```

In []:

c)

```
num = 0
if num % 2 == 0:
    while num < 6:
        print(num)
        num += 1
```

In []:

Problem 14

What is the printed output after the following loops complete? If there is an infinite loop, write "Infinite".

a)

```
idx = 0
while idx < 1:
    print(idx)
    idx += 1
```

In []:

b)

```
idx = 10
while idx <= 15:
    if idx % 10 != 0:
        print(idx)
    idx += 1
```

In []:

c)

```
x = [6, 2, 1, 2]
y = [1, 2, 2, 4]
z = 0

for idx in range(len(x)):
    z += x[idx] * y[idx]

print(z)
```

In []:

d)

```
x = [1,2,3,4]
y = 0
z = 0

for item in x:
    y += item
    z += y

print(z)
```

In []:

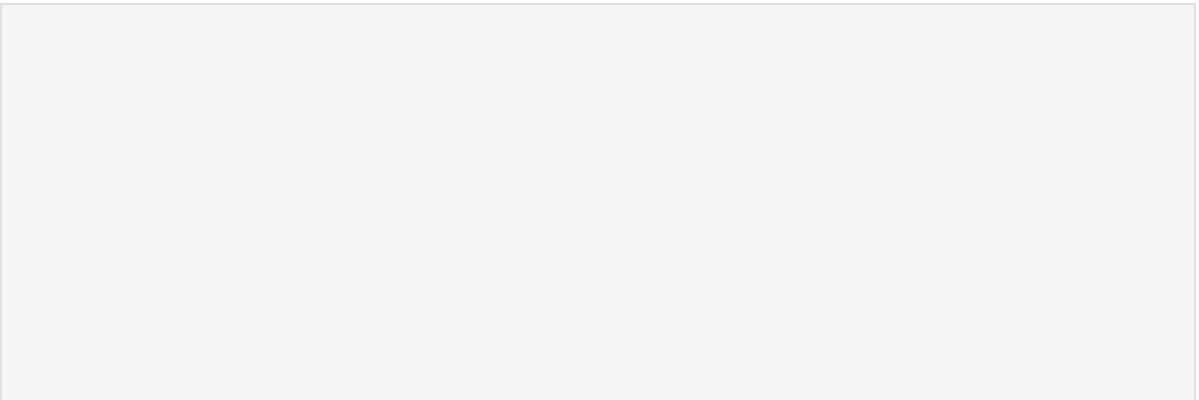
Problem 15

Use a while loop to print "Addis" for all even numbers and "Coder" for all odd numbers from 0 to 4.

Expected Output:

```
Addis
Coder
Addis
Coder
Addis
```

In []:



Problem 16

The code blocks below are supposed to print all integers from 0 to 10 inclusive, but both of them have one error. Change **one symbol** to fix the code.

Example:

```
for i in range(11):
    print(a)
```

The error is on line 2. It should be print(i)

a)

```
x = 0
while x == 10:
    print(x)
    x += 1
```

b)

```
count = 0
while True:
    if count == 10:
        break
    print(count)
    count += 1
```

Problem 17

Write the output of the add() function call.

```
def add(x,y):
    return x + y
result = add(4,6)
print(result)
```

In []:

Problem 18

```
def myEquation(var):
    var *= 5
    var -= 10
    return var
```

What is the output when you `print(myEquation(10))` ?

In []:

Problem 19

Define a function called `addList(lst)` that uses a for loop to sum all of the elements in a list `lst` and returns the value obtained. If there are no elements in the list, return 0.

Example:

`addList([1,2,3,4])` should return 10. `addList([])` should return 0.

In []:

Problem 20

Write a function `countCharacters(word)` that returns the number of times each character appears in the word.

Hint: Try using a dictionary

Example: `countCharacters("Addis")` --> `{"A":1, "d":2, "i":1, "s":1}`

```
def countCharacters(word):  
    # Write your code here
```

In []:

Problem 21

Using a for loop create a new list that contains the original values doubled.

Example: `lst = [1,2,3,4] --> [2,4,6,8]`

```
def listDouble(lst):  
    # Write your code
```

In []:

