In Python, **indentation** is not just for making your code look neat and organized; it's actually a fundamental part of Python's syntax. Indentation is used to define blocks of code (ex:if statements)

Without proper indentation, Python code won't work as expected.

*indentation is a space or a tab placed before a line of code to indicate a block of code.

Example- If Drink = = "Yes" is Left-aligned. Code that is left-aligned will always run as long as it is syntactically

```
correct,
    drink=input("Would you like a drink with that?")
    if drink==("Yes"):
       drinksize=input("What size drink would you like?") The Drink size input variable
                                                                  is indented, because that
       if drinksize==("Small"):
                                                                  part of the code will only
         order.append("Small Drink")
                                                                  run, if drink==("Yes")
         total=total+1.89
41 \
       elif drinksize==("Medium"):
                                               order.append("Small Drink") and
                                               total=total+1.89 are indented in under
         order.append("Medium Drink")
                                               if <u>drinksize</u>==("Small") because that block
         total=total+2.09
                                               of code will run if the condition is met.
44 🗸
       elif drinksize==("Large"):
         order.append("Large Drink")
46
         total=total+2.29
47 v else:
         print("No drink for you today?")
```

Examples:

1. Indentation in if Statements:

- An if statement is used to execute a block of code only if a condition is true.
- In Python, the block of code following the if statement must be indented.
- Example:

2. Nested if Statements:

- A nested if statement is an if statement inside another if statement.
- · Each level of nesting requires additional indentation.
- Example:

```
python

@ Copy code

age = 15
if age >= 13:
    print("You are a teenager.")
    if age >= 18:
        print("You are an adult.")
```

Indentations In Python

Objective: identify when indentations should be used in code. Identify errors in indentions and correct code.

Directions: Read the code below, and use the spacebar or tab key to properly indent the blocks of code.

Problem 1:

```
temperature = 25
if temperature > 30:
print("It's hot outside!")
else:
print("It's cool outside.")
```

Problem 2:

```
num = 3
if num >= 0:
print("The number is positive.")
else:
print("The number is negative")
```

Problem 3 (nested if)

```
x = 5
if x > 2:
if x < 10:
print("x is between 2 and 10.")</pre>
```

Problem 4 (nested if)

```
x = 10
if x > 5:
print("x is greater than 5")
if x < 15:
print("x is also less than 15")</pre>
```

Read the code and answer the questions below:

```
x = 5
if x > 3:
print("x is greater than 3")
```

- a) Identify the issue with the indentation in the code.
- b) Describe the correct indentation for the code to execute properly.
- c) Explain what will happen if the indentation is corrected.