07/22

if ( ) :
elif ( ) :
elif ( ) :
else :

CSI 160 Python Programming

Activity 2: if-else

Statement	True/False
Indentation in Python is mandatory and defines the scope of control-flow constructs like **`if`** statements.	True
It is mandatory to have an **`else`** block?	True
An **`else`** block in an **`if`** statement executes only when all preceding **`if`** and **`elif`** conditions evaluate to **`False`**. (else is default)	True
The **`elif`** keyword can only appear once in an **`if-elif-else`** chain.	False
The expression **`None`** evaluates as **`False`** in a conditional test. 0 (zero)	True
In Python, **`if x:`** treats any nonzero number or non-empty container as **`True`**. ↳ non-zero	True

What is the output of the following code?

```
item_price = 200
quantity = 3
total_purchase = item_price * quantity
is_first_time_buyer = True
if ((total_purchase > 50) and (is_first_time_buyer)):
    discount = total_purchase * 0.10
    total_purchase -= discount
    print("Total purchase after discount:", total_purchase)
else:
    print("Total purchase:",total_purchase)
```

600 → 600 > 50 → True → True → 60 → 600 − 60 → 540

Output:

```
item_price = 10
quantity = 3
total_purchase = item_price * quantity
is_first_time_buyer = True
if ((total_purchase > 50) and (is_first_time_buyer)):
    discount = total_purchase * 0.10
    total_purchase -= discount
    print("Total purchase after discount:", total_purchase)
else:
    print("Total purchase:",total_purchase)
```

30 → 30 > 50 → false → False → 30

Output:

```
if ((age >= 18) and (math_pt >= 80 or english_pt >= 75)):
    eligibility = "Eligible for admission"
else:
    eligibility = "Not eligible for admission"

print(eligibility)
```

```
age = 18
math_pt = 85
english_pt = 70

Output:

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age = 17
math_pt = 75
english_pt = 70

Output:
```

```
if num_items >= 100:
    price_per_item = 5
else:
    if num_items >= 50:
        price_per_item = 6
    else:
        if num_items >= 20:
            price_per_item = 7
        else:
            price_per_item = 8

total_cost = num_items * price_per_item
print("Total cost for",num_items,"items:", total_cost)
```

```
num_items = 5
Output:

num_items = 25
Output:

num_items = 50
Output:

num_items = 500
Output:
```

Convert the nested if-else into a single if-else

```
if (num_1 > 10):
    if(num_2 < 5):
        num_3 = 10 % 3
else:
    num_3 = 10 * 3
```

```
if (num_1 > 10 and num_2 < 5):
    num_3 = 10 % 3
else:
    num_3 = 10 * 3
```