**Creating Python Programs**

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CSC500-1: Intro to Programming

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**Creating Python Programs**

**Part 1**

Pseudocode:

START

DISPLAY "Enter cost of food:"

GET input from user

CONVERT input to float → base\_cost\_of\_food

COMPUTE calculated\_tip\_amount = base\_cost\_of\_food × 0.18

DISPLAY "Recommended 18% tip: $" + calculated\_tip\_amount (formatted to 2 decimal places)

COMPUTE calculated\_tax = base\_cost\_of\_food × 0.07

DISPLAY "Tax: $" + calculated\_tax (formatted to 2 decimal places)

COMPUTE total\_bill = base\_cost\_of\_food + calculated\_tip\_amount + calculated\_tax

DISPLAY "Total bill: $" + total\_bill (formatted to 2 decimal places)

END

Python source code:

*# Critical Thinking 3 Part 1*

*# Ask user to input price for meal*

print('Enter cost of food:')

base\_cost\_of\_food **=** float(input())

*# Calculate tip before taxes*

calculated\_tip\_amount **=** float(base\_cost\_of\_food **\*** 0.18)

print('Recommended 18% tip: $' **+** format(calculated\_tip\_amount,'.2f'))

*# Calculate taxes on original amount*

calculated\_tax **=** float(base\_cost\_of\_food **\*** 0.07)

print('Tax: $' **+** format(calculated\_tax, '.2f'))

*# Display total cost*

print('Total bill: $' **+** format(base\_cost\_of\_food **+** calculated\_tip\_amount **+** calculated\_tax, '.2f'))

Screenshot:

**Part 2**

Pseudocode:

START

DISPLAY "What is the current time in hours using 24-hour time?"

GET input from user

CONVERT input to integer → current\_time

DISPLAY "How many hours until your alarm?"

GET input from user

CONVERT input to integer → hours\_until\_alarm

COMPUTE alarm\_time = (current\_time + hours\_until\_alarm) MOD 24

DISPLAY "Your alarm will be at" + alarm\_time + ":00"

END

Python source code:

*# Critical Thinking 3 Part 2*

*# Ask user for current time in hours*

print('What is the current time in hours using 24-hour time?')

current\_time **=** int(input())

*# Ask for hours until alarm*

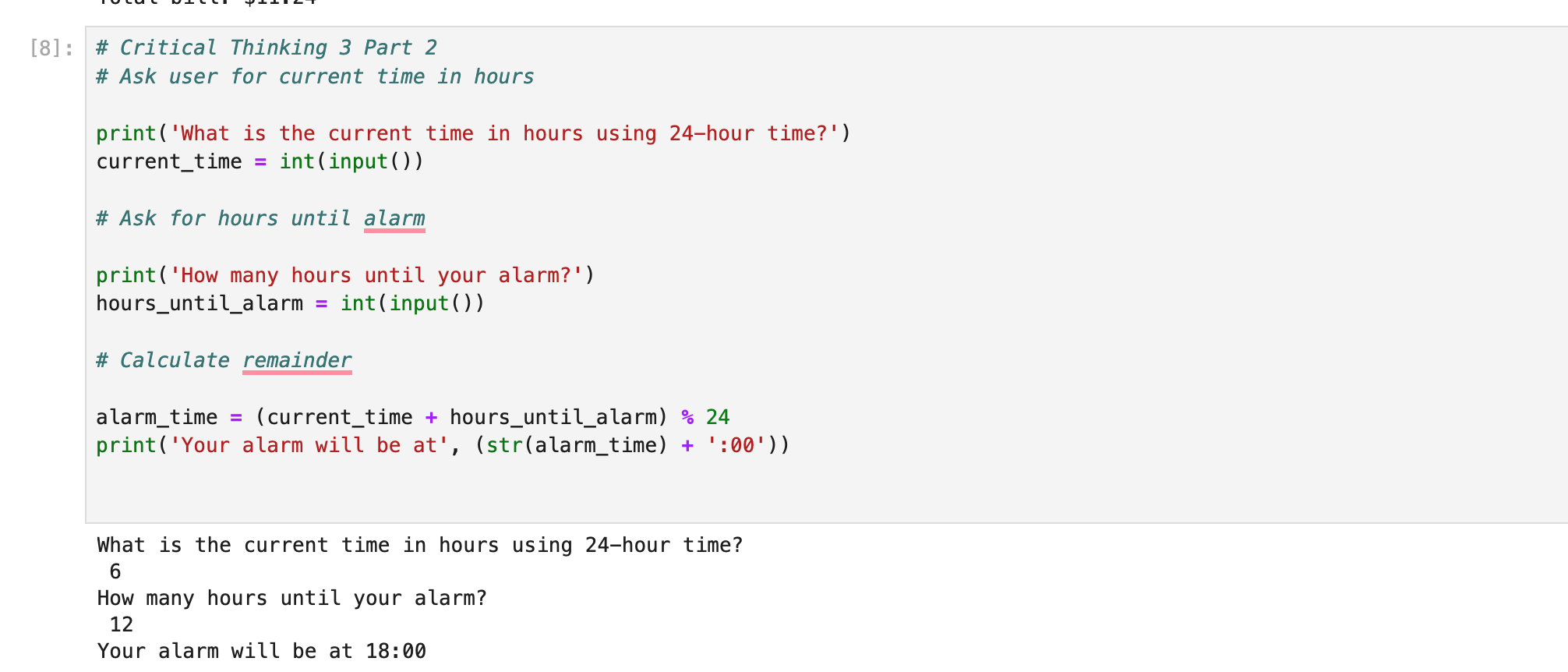
print('How many hours until your alarm?')

hours\_until\_alarm **=** int(input())

*# Calculate remainder*

alarm\_time **=** (current\_time **+** hours\_until\_alarm) **%** 24

print('Your alarm will be at', (str(alarm\_time) **+** ':00'))

Screenshot:

GIT: <https://github.com/dharbour12/IntroToProgramming/blob/main/CriticalThinking3Part1.ipynb>

**References**

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