

CSC500 – Module 3 CT

Creating Python Programs

Your Name
Date

Part 1 – Meal Total Calculator

Pseudocode

```
BEGIN
PROMPT user to enter the charge for the food
READ food_charge

SET tip = food_charge * 0.18
SET tax = food_charge * 0.07

CREATE list components that stores (label, amount)

SET total = 0

FOR each item in components
ADD amount to total
DISPLAY label and amount
END FOR

DISPLAY total price
END
```

Python Source Code

```
# Part 1: Meal Total Calculator

food_charge = float(input("Enter the charge for the food: $"))

tip = food_charge * 0.18
tax = food_charge * 0.07

components = [
    ("Food charge", food_charge),
    ("Tip (18%)", tip),
    ("Sales Tax (7%)", tax)
]

total = 0
```

```
for label, amount in components:  
    print(f"{label}: ${amount:.2f}")  
    total += amount  
  
print(f"Total Price: ${total:.2f}")
```

Example Output

```
Enter the charge for the food: $50  
Food charge: $50.00  
Tip (18%): $9.00  
Sales Tax (7%): $3.50  
Total Price: $62.50
```

Part 2 – 24-Hour Alarm Clock

Pseudocode

```
BEGIN  
PROMPT user for current time (0–23)  
READ current_time  
  
PROMPT for hours to wait  
READ hours_wait  
  
SET alarm_time = (current_time + hours_wait) MOD 24  
  
DISPLAY alarm_time  
END
```

Python Source Code

```
# Part 2: 24-Hour Alarm Clock  
  
current_time = int(input("Enter the current time (0-23): "))  
hours_wait = int(input("Enter number of hours to wait for the alarm: "))  
  
alarm_time = (current_time + hours_wait) % 24  
  
print(f"The alarm will go off at: {alarm_time}:00 hours")
```

Example Output

Enter the current time (0-23): 13

Enter number of hours to wait for the alarm: 50

The alarm will go off at: 15:00 hours