## 9)

```
print("Welcome to the Python Coffee Shop!")

 customer_name = input("What is your name? ")
 print("Hello, " + customer_name + "! Let's order some coffee.")

 price_coffee = 3.50
 price_latte = 4.00

 print("Coffee: $" + str(price_coffee))
 print("Latte: $" + str(price_latte))

 choice = input("What would you like to order? (coffee/latte): ")

 if choice == "coffee":
     cost = price_coffee
 elif choice == "latte":
     cost = price_latte
 else:
     print("Sorry, we do not have that.")
     cost = 0

 quantity = int(input("How many cups would you like? "))

 total_cost = cost * quantity

 if quantity > 1:
     print("You get a discount of $1.00!")
     total_cost -= 1.00

 print("Your total is: $" + str(total_cost))
 print("Thank you, " + customer_name + "! Please come again.")
```

**Output:** The user will be asked their name, which item they want, and how many cups. Based on their inputs, the total cost of those drinks will be provided.

## 10) Practice tasks

```
print("Welcome to the Python Coffee Shop!")

# Prices
price_coffee = 3.50
price_latte = 4.00
price_mocha = 4.50

# Ask for customer name
customer_name = input("What is your name? ")
print("Hello, " + customer_name + "! Let's order some coffee.")

# Ask if customer is a student
student_status = input("Are you a student? (yes/no): ").lower()

# Initialize total bill
grand_total = 0

# Ordering loop
while True:
    print("\nMenu:")
    print("Coffee: $" + str(price_coffee))
    print("Latte: $" + str(price_latte))
    print("Mocha: $" + str(price_mocha))
```

```
choice = input("What would you like to order? (coffee/latte/mocha): ").lower()

if choice == "coffee":
    cost = price_coffee
elif choice == "latte":
    cost = price_latte
elif choice == "mocha":
    cost = price_mocha
else:
    print("Sorry, we do not have that.")
    cost = 0

if cost > 0:
    quantity = int(input("How many cups would you like? "))
    total_cost = cost * quantity

    # Discount for multiple cups
    if quantity > 1:
        print("You get a discount of $1.00!")
        total_cost -= 1.00

    # Add to running total
    grand_total += total_cost
    print("Subtotal for this order: $" + str(round(total_cost, 2)))

# Ask if customer wants to order more
```

```
    another = input("Would you like to order another drink? (yes/no): ").lower()
    if another != "yes":
        break

# Apply student discount
if student_status == "yes":
    print("You get a 10% student discount!")
    grand_total *= 0.90

print("\nYour final total is: $" + str(round(grand_total, 2)))
print("Thank you, " + customer_name + "! Please come again.")
```

**Output:** Added a new drink (mocha) with its price and updated the menu options. If the customer is a student, they will receive a 10% discount on the total price.

# 11) Mini-glossary

- **String**: text like `"hello"`.
- **Integer**: a whole number like `3`.
- **Float**: a decimal number like `3.5`.
- **Variable**: a named box that stores a value.
- **List**: an ordered collection like `["a", "b", "c"]`.

# 12) Quiz — Check your understanding

1. **Write a line of Python code** that displays the sum of `468 + 751`.
   `print(468 + 751)`
2. **Write a line of Python code** that displays the words `"How are you?"` to the screen.
   `print("How are you?")`
3. **What is the output** of the following Python statement?
   `2.6666666666666665 28 22 32 30`

4. **Write a Python statement** that creates a variable called `size` and assigns the value `77` to it.

```
size = 77
```

5. **What will be the output** of the following Python program?

```
x = 5

y = 7

print(abs(x - y) - 10)

print(int(x ** 2) + 1.4)

print(round(y + 3.14159, 2))
```

**Output:**

```
-8

26.4

10.14
```

6. **What is the output** of the following Python program?

```
a = 31

b = 7

print(a // b, a % b)
```

**Output:**

```
4 3
```

**7. Write a Python program** to convert `250` minutes into hours and minutes and print both values.

```
Hours: 4 Minutes: 10
```

**8.What is the output** of the following Python program?

```
str1 = "it is what it is"

print(str1.find("is"), str1.rfind("it"), str1[-9:-7])
```

**Output:** 3 11 ha

**9. What is the output** of the following Python program?

```
str1 = "it is what it is"

print(str1[-9:])
```

**Output:** hat it is

# 13) Additional Exercises

13 → True

14 → True

15 → True

16 → True

17 → False

18 → True

19 → False

20 → False

21 → True

22 → True

23 → False

24 → False

25 → True

26 → False

## Part 3: Decision Structures — Exercises 27–29. Determine the output displayed.

**27.**

```
a = 2
b = 3
c = 7

if (a * b) < c:   # 2*3 = 6 < 7 → True
    b = a         # b = 2
else:
    c = a + b + c
```

```
print(a, b, c)
```

**Output:**

```
2 2 7
```

**28.**

```
# Assume the response is B
letter = input("Enter A, B, or C: ")   # B
letter = letter.upper()                # still "B"

if letter == "A":
    print("A, my name is Alice.")
elif letter == "B":
    print("To be, or not to be.")
elif letter == "C":
    print("Oh, say, can you see.")
else:
    print("You did not enter a valid letter.")
```

**Output:**

```
To be, or not to be.
```

**29.**

```
isvowel = False
letter = input("Enter a letter: ")  # assume input "B"
letter = letter.upper()             # "B"

if letter in "AEIOU":   # "B" not in vowels
    isvowel = True

if isvowel:
    print(letter, "is a vowel.")
elif not (65 <= ord(letter) <= 90): # "B" ASCII = 66 → valid letter
    print("You did not enter a letter")
else:
    print(letter, "is a consonant.")
```

**Output (if input = B):**

```
B is a consonant.
```

(If input were `"A"`, it would say `"A is a vowel."`.)

## Exercise 30 — Income Tax

```
income = float(input("Enter your taxable income: "))

if income <= 10000:
    tax = 0
elif income <= 20000:
    tax = income * 0.10
else:
    tax = income * 0.15

print("Your income tax is:", tax)
```

## Exercise 30 — Leap Year

```
# Leap Year Checker Program (Gregorian calendar rules)

year = int(input("Enter a year: "))

if (year % 4 == 0) and (year % 100 != 0 or year % 400 == 0):
    print(year, "is a leap year.")
else:
    print(year, "is not a leap year.")
```