

# Coffee Machine Program Requirements

## 1. Prompt user by asking:

*"What would you like? (espresso/latte/cappuccino):"*

- a. Check the user's input to decide what to do next.
- b. The prompt should show every time an action has been completed, e.g., once the drink is dispensed. The prompt should show again to serve the next customer.

## 2. Turn off the Coffee Machine by entering "off" to the prompt.

- a. For maintainers of the coffee machine, they can use "off" as the secret word to turn off the machine. Your code should end execution when this happens.

## 3. Print report.

- a. When the user enters "report" to the prompt, a report should be generated that shows the current resource values.

**Example:**

- Water: 100ml
- Milk: 50ml
- Coffee: 76g
- Money: GHGHS25.0

## 4. Check if resources are sufficient:

- a. When the user chooses a drink, the program should check if there are enough resources to make that drink.
- b. E.g., if a latte requires 200ml of water but there is only 100ml left in the machine, it should not continue to make the drink but print: *"Sorry, there is not enough water."*
- c. The same should happen if another resource is depleted, e.g., milk or coffee.

## 5. Process coins.

- a. If there are sufficient resources to make the selected drink, the program should prompt the user to insert coins.
- b. Ghanaian coin denominations include:
  - 1 cedi coin = GHGHS1.00
  - 50 pesewa coin = GHGHS0.50
  - 20 pesewa coin = GHGHS0.20
  - 10 pesewa coin = GHGHS0.10
- c. Calculate the monetary value of the coins inserted.

**Example:**

**One GHc1 coin, one 50p coin, and two 20p coins** =  $1.00 + 0.50 + 0.20 \times 2$  = **GHc1.90**

## 6. Check if the transaction is successful:

- a. Check that the user has inserted enough money to purchase the selected drink.

**Example:**

If a latte costs **GHc25.00** but the user only inserted **GHc1.90**, the program should say:

*"Sorry, that's not enough money. Money refunded."*

- b. But if the user has inserted enough money, then the cost of the drink is added to the machine's profit and will be shown in the next "report."

**Example report after one purchase:**

- Water: 100ml
  - Milk: 50ml
  - Coffee: 76g
  - Money: GHGHS25.0
- c. If the user inserted too much money, the machine should offer change.

**Example:** *"Here is **GHc2.45** in change." (rounded to 2 decimal places)*

## 7. Make Coffee.

- a. If the transaction is successful and there are enough resources, then the drink's ingredients should be deducted from the coffee machine's resources.

Example before and after purchasing a latte:

**Before:**

- Water: 300ml
- Milk: 200ml
- Coffee: 100g
- Money: GHGHS0

**After:**

- Water: 100ml
- Milk: 50ml
- Coffee: 76g
- Money: GHGHS25.0

- b. Once all resources have been deducted, tell the user: *"Here is your latte. Enjoy!"*