

# Vending Machine Program

## Instructions for the Vending Machine Program:

In this exercise, you'll create a Java program that simulates a simple vending machine. The user can select a drink by entering a number (1-4) corresponding to the drink of their choice, and the program will display what drink they bought. The program runs until the user enters 4 to quit.

## Steps:

### 1. Understand the Method `dispense`:

- The `dispense` method takes an integer (`selectChoice`) as a parameter, which represents the user's selection.
- It uses a **switch statement** to determine which drink the user selected:
  - If the user selects 1, the program prints "You bought a coke".
  - If the user selects 2, the program prints "You bought a sunkist".
  - If the user selects 3, the program prints "You bought a Sprite".
  - Any input other than 1, 2, or 3 is considered invalid, and the program prints "Invalid Selection".

### 2. Understand the Method `getMenu`:

- The `getMenu` method displays the menu to the user, accepts their input, and calls the `dispense` method to handle the choice.
- It uses a **while loop** to keep showing the menu and asking the user to select a drink until they enter 4, which acts as a sentinel value to stop the program.

### 3. Sentinel Value:

- The number 4 is used to quit the program. When the user enters 4, the loop ends, and the program stops displaying the menu.
- Until the user enters 4, the program will continue to show the vending machine menu.

### 4. Main Method:

- The main method simply calls the `getMenu` method to start the program.

### Example Run:

```
Vending Machine
1. Coke
2. Sunkist
3. Sprite
4. Quit
Enter your choice (1-4): 1
You bought a coke

Vending Machine
1. Coke
2. Sunkist
3. Sprite
4. Quit
Enter your choice (1-4): 2
You bought a sunkist
```

### Explanation:

- **Vending Machine Menu:** The program displays a simple menu offering three drinks (1. Coke, 2. Sunkist, 3. Sprite) and the option to quit (4. Quit).
- **Selection Process:**
  - After each selection, the program either displays the purchased drink or tells the user that their selection is invalid if they input anything other than 1, 2, or 3.
  - The menu will keep reappearing until the user enters 4 to quit the program.
- **Input Validation:** The program will handle incorrect inputs by printing "Invalid Selection" if the user enters a number outside the range of 1-3.

### Important Notes:

1. **Scanner:** The Scanner object is used to read input from the user. It must be closed using `scanner.close()` when done to avoid resource leaks.
2. **Loop and Sentinel:** The while loop continues running as long as the user does not input 4. This is known as a **sentinel-controlled loop**.
3. **Switch Statement:** The switch statement makes it easy to handle different choices based on user input.