Class Programming Example

Week 2

Program Details

- We want to keep track of chocolate bar sales.
- We are selling chocolate bars for $2.45 each.
- The program will determine how much a customer owes when they purchase their chocolate bars.

Building your algorithm

1. Start with a block of comments that introduce the program, the purpose, the author and the date it was completed.
2. Determine what you know, what you need to know and what you need to calculate
3. Assign what you know to variables
4. Introduce your program
5. Get your missing information
6. Do your calculations
7. Display your output
8. Inform the user that the program has completed

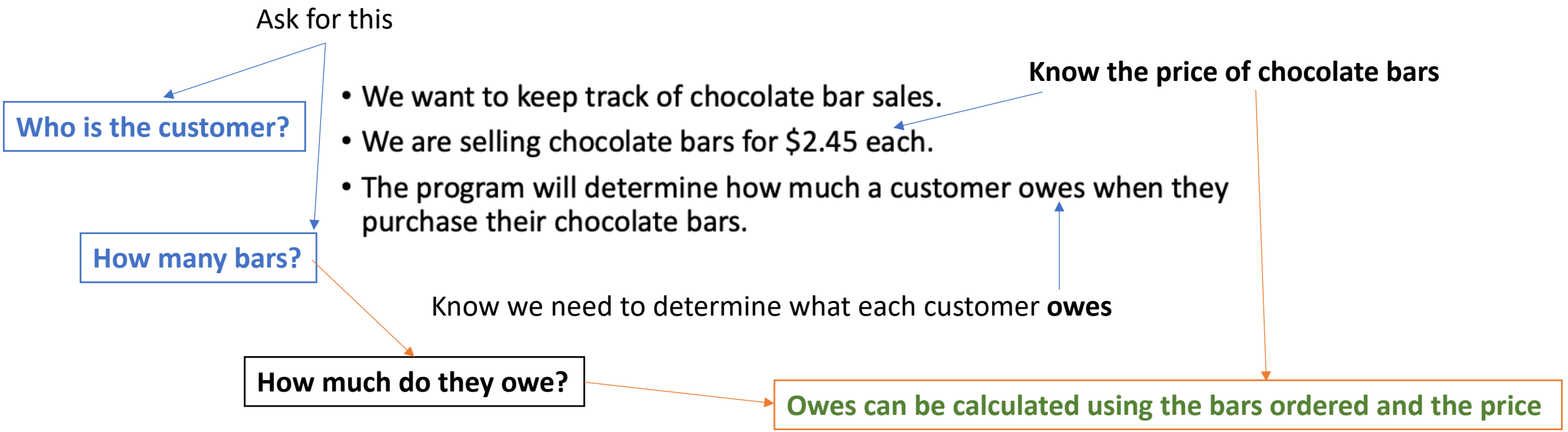
Build your program

1. Start with a block of comments that introduce the program, the purpose, the author and the date it was completed.

```
# Program Name: [Give your program a name]
# Purpose: [Describe your program]
# Author: [Enter your name]
# Date completed: [Enter the date it was completed]
```

Build your program

2. Determine what you know, what you need to know and what you need to calculate



Build your program

3. Assign what you know to variables

- We know the price of the chocolate bars

```
6    #     Declare variables
7    cost_per_bar = 2.45    # cost per chocolate bar
8
```

Build your program

4. Introduce your program

```
#     //Display a welcome message
print('Welcome to my chocolate bar calculation program')
```

Build your program

5. Get your missing information

Need to escape the ‘ or it sees this as a closing quote.

```
    customer = input('Please enter the customer's name:')
                                                       ^
SyntaxError: unterminated string literal (detected at line 13)
```

```
12    #     Ask for their name
13    customer = input('Please enter the customer\'s name:')
14
15    #     Ask for the number of chocolate bars
16    num_chocolate_bars = int(input('Please enter the number of chocolate bars to purchase:'))
17
```

Must change the string to an integer (numeric value)

```
    total = num_chocolate_bars * cost_per_bar
            ~~~~~~~~~~~~~~~~~~~^~~~~~~~~~~~~~
TypeError: can't multiply sequence by non-int of type 'float'
```

Build your program

6. Do your calculations

```
18    #     Calculate the amount owing
19    total = num_chocolate_bars * cost_per_bar
20
```

Build your program

7. Display your output

```
21
22  #     Display our output
23  print(f'Hello {customer}, you owe ${total} for the purchase of {num_chocolate_bars}.')
24
```

Build your program

8. Inform the user that the program has completed

```
25    #     Thank the user
26    print('Thank you for using the calculator program.')
27
```