

1. Set up sequence

- i. Define and initialize scanner, candleType, candleName, burnTime, candleCost and all 3 Candle objects to empty values
- ii. Welcome shopkeeper and activate setup mode
- iii. While loop that runs until all 3 candles have been properly set, within the while loop...
 1. Ask admin to enter name of candle and accept any input
 2. Ask admin to enter cost of candle and accept any number
 3. Ask admin to enter burn time of candle and accept any number
 4. System runs if statement to check if both candleCost and burnTime values are greater than 0, if not, then console prints out statement asking user to try again with that current candle
 5. If the aforementioned if statement comes up as true, then a switch statement is activated to use the accepted values and create a new candle object
 6. After the switch statement, the candleType value increments and the user continues
- iv. Console informs user that set up is complete and we enter the shopping sequence

2. Shopping sequence

- i. User is welcomed to the candle shop and is informed of the 3 candles on sale today(using candle.toString()).
- ii. Define and initialize buyCandle1, ...2, and ...3, totalCandles, purchaseAmt, burnTimeTotal, subtotalCost, totalCost, discount, and symbol
- iii. Reset candleType to 1
- iv. Activate another while loop similar to the previous where it will only stop once all 3 candles have been processed
 1. System asks user to enter in how many candles they want, saves as purchaseAmt
 2. System uses if statement to check if purchaseAmt is greater than OR EQUAL TO 0, if not, asks for valid input. If the if statement is true, then activates another switch statement in which buyCandle1, ...2, or ...3 are set to purchaseAmt
 3. Once switch statement is complete, increments candleType
- v. Define and initialize loopMax
- vi. System generates a histogram of candles purchased, each stating the name of the candle
- vii. Use for loop where i represents the candle type we are generating a histogram for.
- viii. Use switch statement in for loop to print the proper line depending on the candle type, sets the symbol to be set symbol depending on what type of

candle the program is on, then finally sets loopMax to be the same value as buyCandle1, ...2, or ...3.

- ix. Once values are set, activate for loop that prints the assigned symbol the proper number of times, depending on how many of that candle type was bought
- x. subtotalCost is now calculated by multiplying each candle object's price by how many of each was purchased, then the number is rounded down to the nearest cent.
- xi. 4 separate if statements(no else ifs) are run to determine the value of the discount variable depending on the value of subtotalCost, if greater than 20, set to 0.05, if greater than 35, set to 0.07, if greater than 55, set to 0.1, and if greater than 100, set to 0.2.
- xii. totalCost is now calculated by multiplying subtotalCost by 1 - discount, the value is then rounded to the nearest cent.
- xiii. totalCandles is now calculated by just getting the sum of all candles purchased.
- xiv. burnTimeTotal is also calculated by multiplying each candle objects burn time by buyCandle1, ...2, or ...3, then getting the sum of the three.
- xv. System outputs the subtotalCost, discount, totalCost
- xvi. System outputs totalCandles and the number of points earned(calculated by just dividing totalCandles by 10, computer automatically rounds down).
- xvii. System outputs burnTimeTotal and the overall value of the purchase by dividing the totalCost by burnTimeTotal, then rounding to nearest cent.