**Technical Design Document**

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**Program Description:**

A debugged program that calculates sale discounts of various items.

I ran the debug feature on Python and found the error was in the dictionary. The price 500 was a string, I located it in the code.

A screenshot of a computer

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In line 18 shown below, I removed the quotes surrounding the number 500, changing it from a string to an int.

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**Functions used in the Program (list in order as they are called):**

1. **Function Name:** calculate\_discount()

**Description:** This function takes input and runs a calculation to acquire the amount of discount.

**Parameters:** price, discount\_rate

**Variables:**

1. discount\_amount,

**Logical Steps:**

1. get the discount\_amount by multiplying price with discount\_rate
2. return discount\_amount.

**Returns:** discount\_amount, the amount discounted off of the original cost of the item.

2. **Function Name:** apply\_discount()

**Description:** This function calculates the new price of the sale item.

**Parameters:** price, discount\_rate

**Variables:**

1. new\_price, the price of the item subtracted by the discount

**Logical Steps:**

1. calculate the new\_price by subtracting discount\_amount with price

**Returns:** new\_price, the final sale price of the item after the discount

3. **Function Name:** main()

**Description:** This function contains a list named products with dictionaries for each item that the above two functions will use to run their calculations.

**Parameters:** none

**Variables:**

1. price, associated with the price value in the dictionaries.
2. discount\_rate, associated with the discount\_rate value in the dictionaries.

**Logical Steps:**

1. calculate the new\_price by subtracting discount\_amount with price

**Returns:** None

**Logical Steps:**

1. Use dictionaries for the items laptop, smartphone, tablet, and headphones, associate each item with a price and a discount rate.
2. Use a for loop that runs for each item in the dictionary.
3. Call on calculate\_discount() to calculate the amount of discount for each item.
4. Call on apply\_discount() to calculate the final price of the item after the respective discount.
5. After calculating, display the result.

**Link to your repository:** https://github.com/ficklative/COP2373

**Output Screenshot:**

**A screenshot of a computer

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