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Steps involved in calculating CLV:

Determine the average value of each purchase

Calculate the frequency of purchases per week

Estimate the customer's lifespan (how long they are likely to continue purchasing)

Determine the discount rate to use (the rate at which future cash flows are discounted to present value)

Use the formula to calculate the CLV:

$$CLV = (\text{Average value of a purchase} \times \text{Number of purchases per week} \times \text{Lifespan}) / (1 + \text{Discount rate} - \text{Retention rate})$$

Using the given data and assuming a lifespan of 3 years and a discount rate of 10%, the CLV can be calculated as follows:

Average value of a purchase = \$6.45

Number of purchases per week = 3

Lifespan = 3 years

Discount rate = 10%

Retention rate (assuming the customer will continue to visit Tim Hortons at the same frequency) = 100%

Profit margin = 25%

Using the formula, $CLV = (\$6.45 \times 3 \times 156) / (1 + 0.1 - 1) = \$2,499.60$

Adding the profit margin of 25%, the CLV becomes \$3,124.50.

Therefore, the estimated CLV for this customer is \$3,124.50.

For a customer whose purchases for two years is more than \$2,000, the steps to calculate the CLV are the same as in step 2. However, we would need to know the average value of a purchase and the frequency of purchases to make the calculation.

Approach to Lifetime Value Prediction questions:

To approach Lifetime Value Prediction questions, we need to gather data on the customer's purchase history, estimate their lifespan as a customer, and determine the discount rate to use. We also need to consider factors such as the customer's retention rate, the average value of their purchases, and the frequency of their purchases. By using a formula to calculate the CLV, we can estimate the future value of the customer to the business and make decisions about how much to invest in retaining them. It is important to keep in mind that the CLV is an estimate, and actual results may vary.

```

# Define variables
avg_purchase <- 6.45
num_purchases_week <- 3
lifespan <- 3
discount_rate <- 0.1
profit_margin <- 0.25

# Calculate CLV
CLV <- (avg_purchase * num_purchases_week * lifespan) / (1 + discount_rate - 1) * (1 +
profit_margin)

# Print result
print(paste0("The estimated CLV is $", round(CLV, 2)))

```



The screenshot shows the RStudio IDE with a script editor on the left and an output console on the right. The script editor contains the following R code:

```

1 # Define variables
2 avg_purchase <- 6.45
3 num_purchases_week <- 3
4 lifespan <- 3
5 discount_rate <- 0.1
6 profit_margin <- 0.25
7
8 # Calculate CLV
9 CLV <- (avg_purchase * num_purchases_week * lifespan) / (1 + discount_rate - 1) * (1 + profit_margin)
10
11 # Print result
12 print(paste0("The estimated CLV is $", round(CLV, 2)))
13

```

The output console on the right shows the result of the execution:

```

Rscript /tmp/0x8d0gcyd.r
[1] "The estimated CLV is $725.62"

```

This code sets the variables for the average purchase, number of purchases per week, lifespan, discount rate, and profit margin, and then uses the CLV formula to calculate the estimated CLV. The `round()` function is used to round the result to two decimal places. The `print()` function is used to display the result as a string with a dollar sign and the rounded value.

You can replace the variables with your own data and run the code to calculate the CLV for your customer.