This algorithm is designed for a store which sells items to a customer by calculating prices, discounts, coupons and displaying total value.

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LET selection be a character that accepts the selection of item by the user.

LET gallons be an integer given by the user of how many gallons of milk they want.

LET egg\_selection be an integer given by the user that represents the choice of half or full dozen they require.

LET half\_dozens be an integer given by the user of how many half dozen of eggs they want.

LET full\_dozens be an integer given by the user of how many full dozen of eggs they want.

LET rolls be an integer given by the user of how many rolls of toilet paper they want.

LET total\_rolls be an integer representing total rolls of toilet papers they ordered.

LET coupons be a string representing the coupon code given by the user for discount.

LET subtotal be a floating number representing subtotals made from each purchase selection.

LET total\_amount be a floating number representing total amount made from each subtotals.

LET total\_discount be a floating number representing total discounts made from the total amount.

LET total\_gallons be a floating number representing total gallons of milk ordered.

LET eggs\_total be a floating number representing the price of eggs ordered.

START

//Initialization

gallons <- -1, half\_dozens <- -1, full\_dozens <- -1, loaves <- -1, rolls <- -1, total\_rolls <- 0

discount <- 0, subtotal <- 0, total\_amount <- 0, total\_discount <- 0, total\_gallons <- 0, eggs\_total <- 0

DISPLAY "Welcome to YNY Store"

DISPLAY "Our Items"

WHILE (selection ≠ 5) //Repetition for the menu to appear again when loop ends.

DISPLAY "1.Milk"

DISPLAY "2.Bread"

DISPLAY "3.Eggs"

DISPLAY "4.Toilet paper"

DISPLAY "5.Exit"

DISPLAY "Please make a selection"

GET selection

SWITCH (selection) //Selection for the user to select specific items from the menu.

CASE 1:

WHILE (gallons < 0)

DISPLAY "How many gallons of milk would you like to buy?"

GET gallons

total\_gallons <- total\_gallons + gallons

subtotal <- 6.25\*gallons

DISPLAY "The subtotal for Milk is: $" + subtotal

total\_amount= total\_amount + subtotal

END WHILE

CASE 2:

WHILE(loaves < 0)

DISPLAY "How many loaves of bread would you like to buy?"

GET loaves

WHILE(coupon ≠ "R" and coupon ≠ "N") //Repetition for the selection of coupons when entered wrong value

DISPLAY "Please type in a coupon code or N"

GET coupon

IF(coupon = "R") THEN //Selection for the coupon to have a discount or have no discount

discount <- 0.75\*loaves

ELSE

discount <- 0

ENDIF

END WHILE

subtotal <- 2.25\*loaves-discount

DISPLAY "The subtotal for the bread is: $"<<subtotal

total\_amount <- total\_amount + subtotal

total discount <- total discount + discount

discount <- 0

END WHILE

CASE 3:

DISPLAY "Do you want to buy half dozen or full dozen? (Please select (1 or 2)"

GET egg\_selection

IF egg\_selection = 1 THEN //Selection for the customer to buy half dozen

WHILE (half\_dozens < 0) //Repetition for the customer asking the amount they want to buy

DISPLAY "How many half dozens of eggs would you like to buy?"

GET half\_dozens

subtotal= half\_dozens \* 2

DISPLAY "The subtotal for Eggs is: $" + subtotal

END WHILE

ELSE IF egg\_selection = 2 THEN //Selection for the customer to buy full dozen

WHILE (full\_dozens < 0) //Repetition for the customer asking the amount they want to buy

DISPLAY "How many full dozens of eggs would you like to buy?"

GET full\_dozens

subtotal= full\_dozens \* 3.5

DISPLAY "The subtotal for Eggs is: $" + subtotal

END WHILE

ELSE // Display value when the user inputs invalid value

DISPLAY "Wrong Input"

END IF

eggs\_total = eggs\_total + subtotal;

total\_amount = total\_amount + subtotal

CASE 4:

WHILE (rolls < 0)

DISPLAY "How many rolls of toilet paper would you like to buy?"

GET rolls

IF (rolls >= 1 and rolls <= 5)

total\_rolls <- total\_rolls + rolls

IF total\_rolls >= 10 //Extra credit solution

subtotal = 1.49 \* rolls

ELSE

subtotal = 1.99 \* rolls

END IF

ELSE IF (rolls >= 6 and <= 10)

subtotal = 1.49 \* rolls

ELSE

subtotal = 0.99 \* rolls

END IF

DISPLAY "The subtotal for the Toilet Paper is: $" + subtotal

total amount = total amount + subtotal

rolls <- -1

END WHILE

CASE 5:

DISPLAY "Thank You for shopping from us"

DEFAULT: //Default value when there is a wrong input

DISPLAY "Sorry, we do not sell that item."

DISPLAY "Please make another selection."

END SWITCH

IF (total\_gallons >= 2) //Total amount due values

DISPLAY "Total amount due: $" total\_amount- (eggs\_total / 2)

ELSE

DISPLAY "Total amount due : $" total\_amount

END IF

IF(total\_gallons >= 2) //Total discounts deducted

DISPLAY "Total discount: $" + total discount + (eggs\_total / 2)

ELSE

DISPLAY "Total discount: $" + total\_discount

END IF

STOP