

Algorithms and Pseudocode

PROBLEM 1:

Algorithm:

STEP 1: Walk into the corn meadow

STEP 2: Pick the first ear of corn

STEP 3: Move further into the meadow

STEP 4: If another ear is found, compare its size with the current ear

STEP 5: If other ear is bigger than yours, then drop your corn ear and take the other one

STEP 6: Else, search meadow again for other ears of corn

STEP 7: Go to STEP 3 and repeat these steps until you are out of the meadow

Pseudocode:

START

corn-ear-in-mouth = PICK first-corn-ear

DO

corn-ear-to-pick = SEARCH corn-ear

IF corn-ear-to-pick > corn-ear-in-mouth

THEN

DROP corn-ear-in-mouth

PICK corn-ear-to-pick

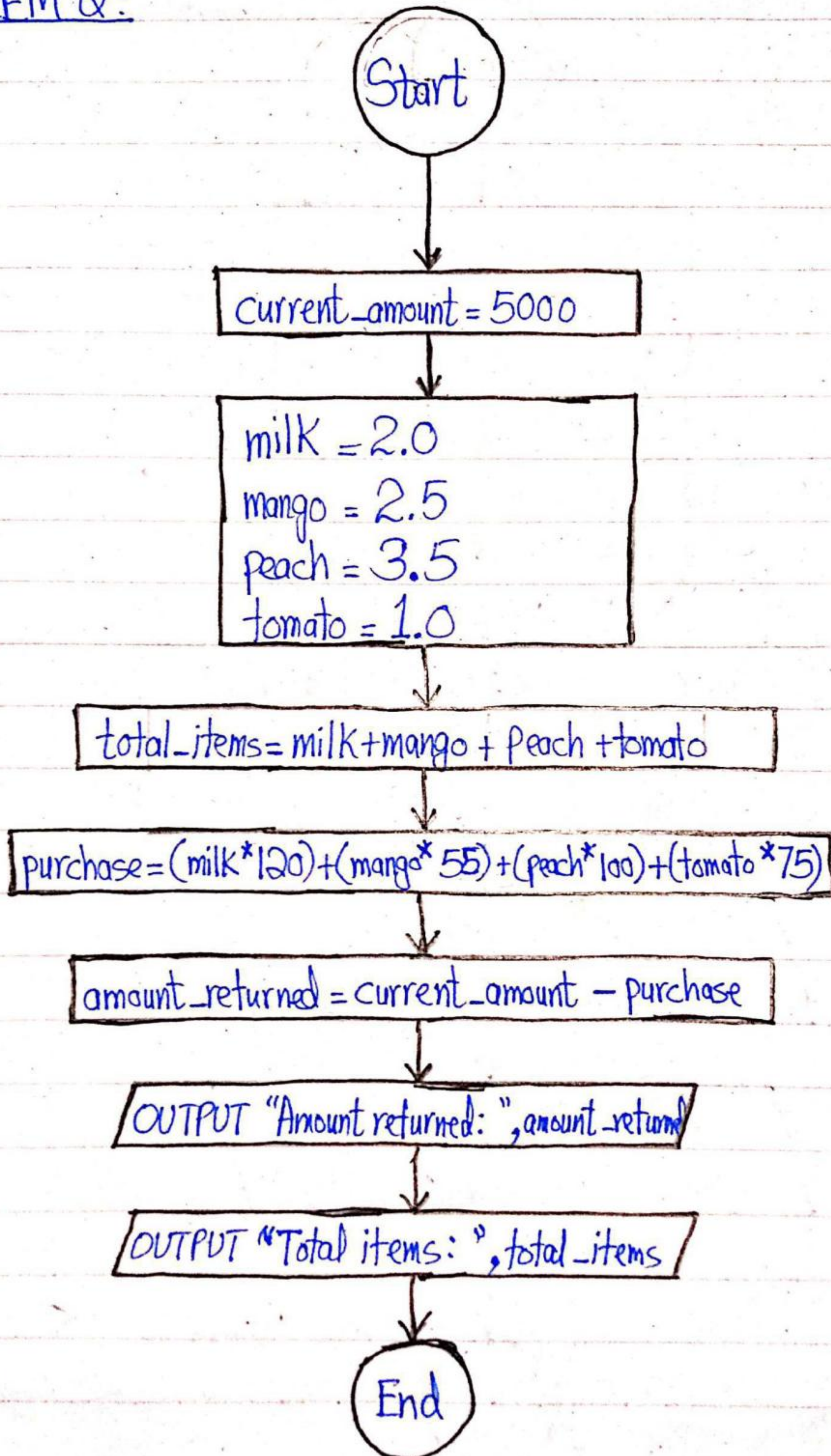
corn-ear-in-mouth = corn-ear-to-pick

ENDIF

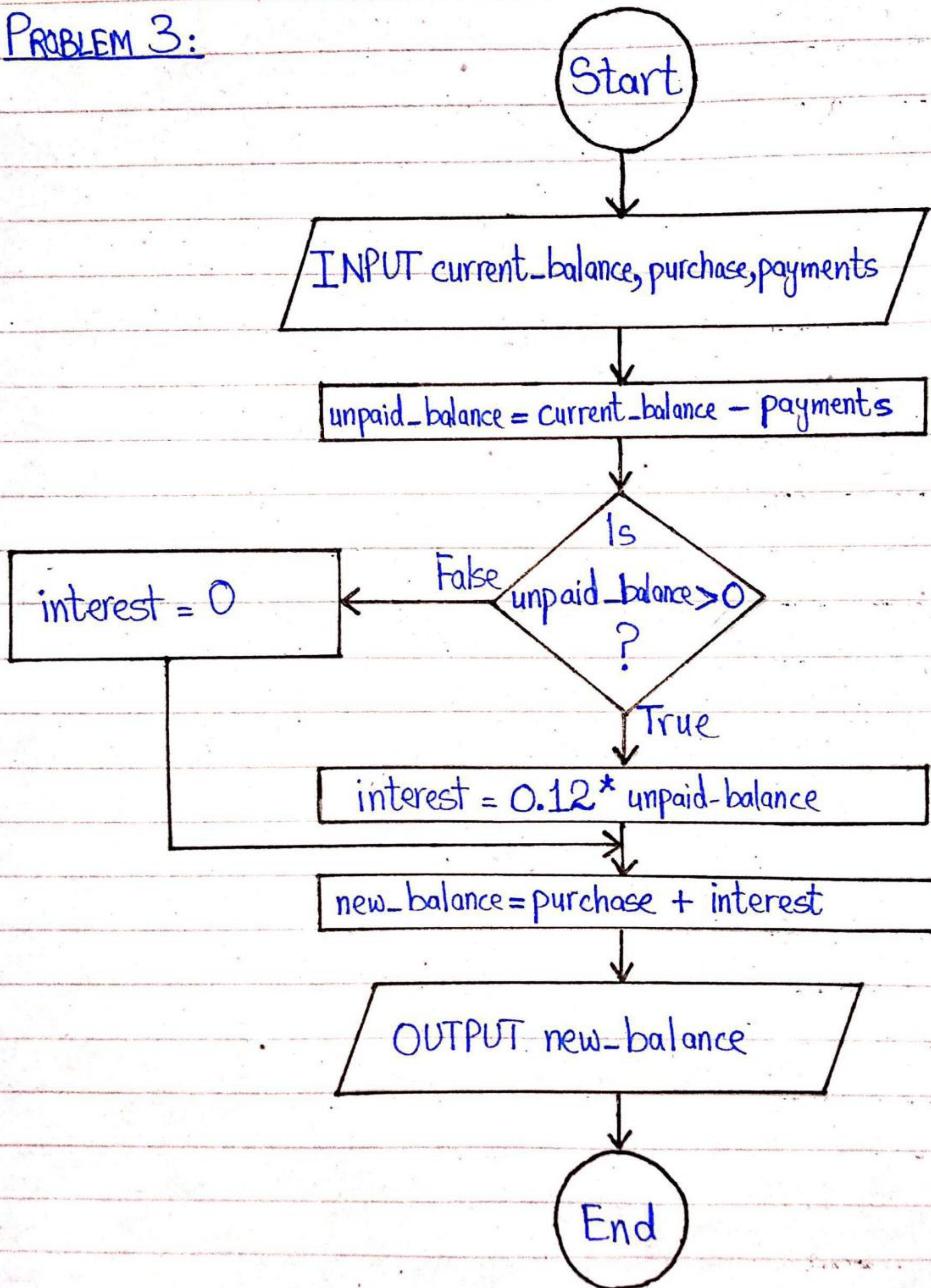
WHILE meadow != FINISHED

END

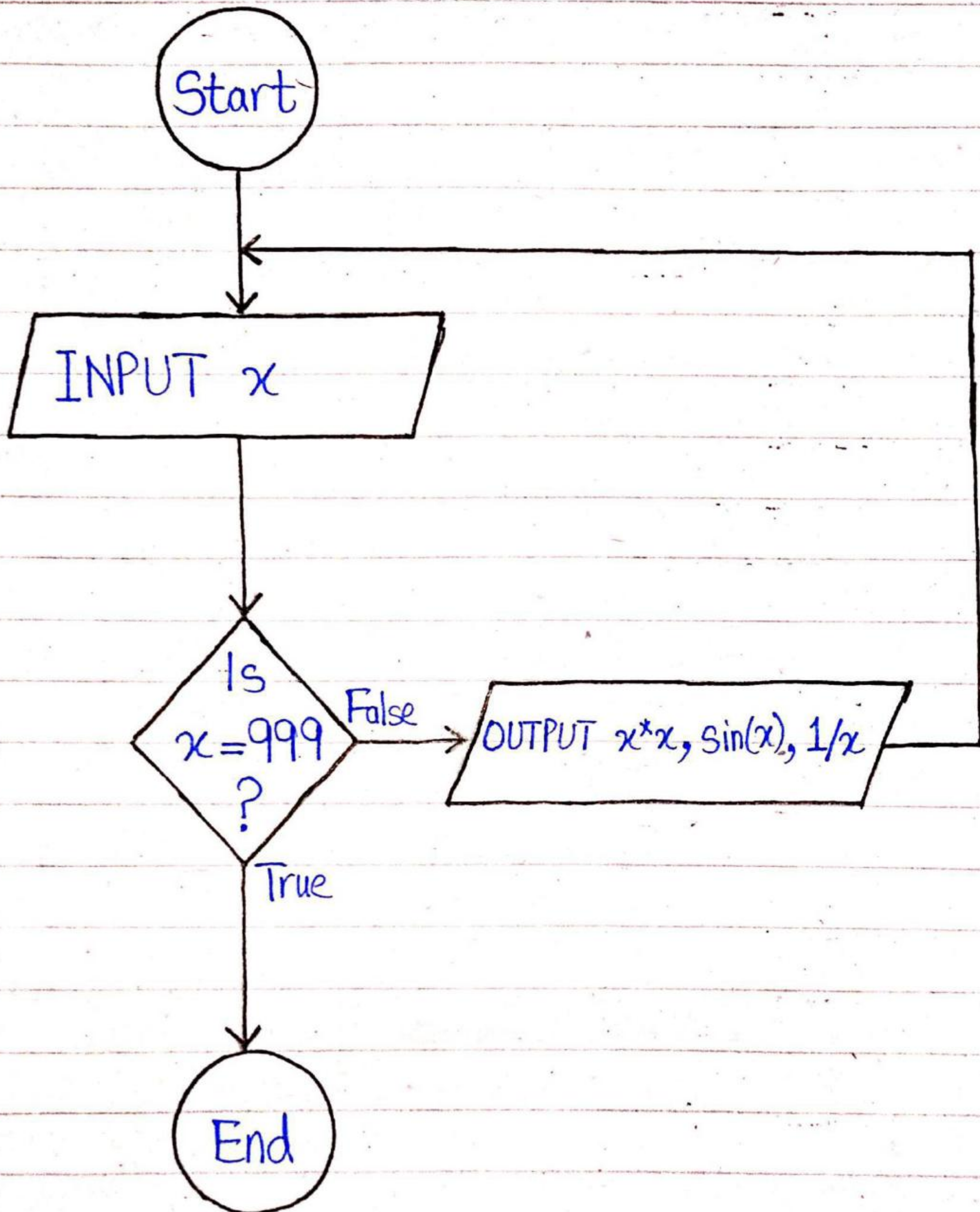
PROBLEM 2:



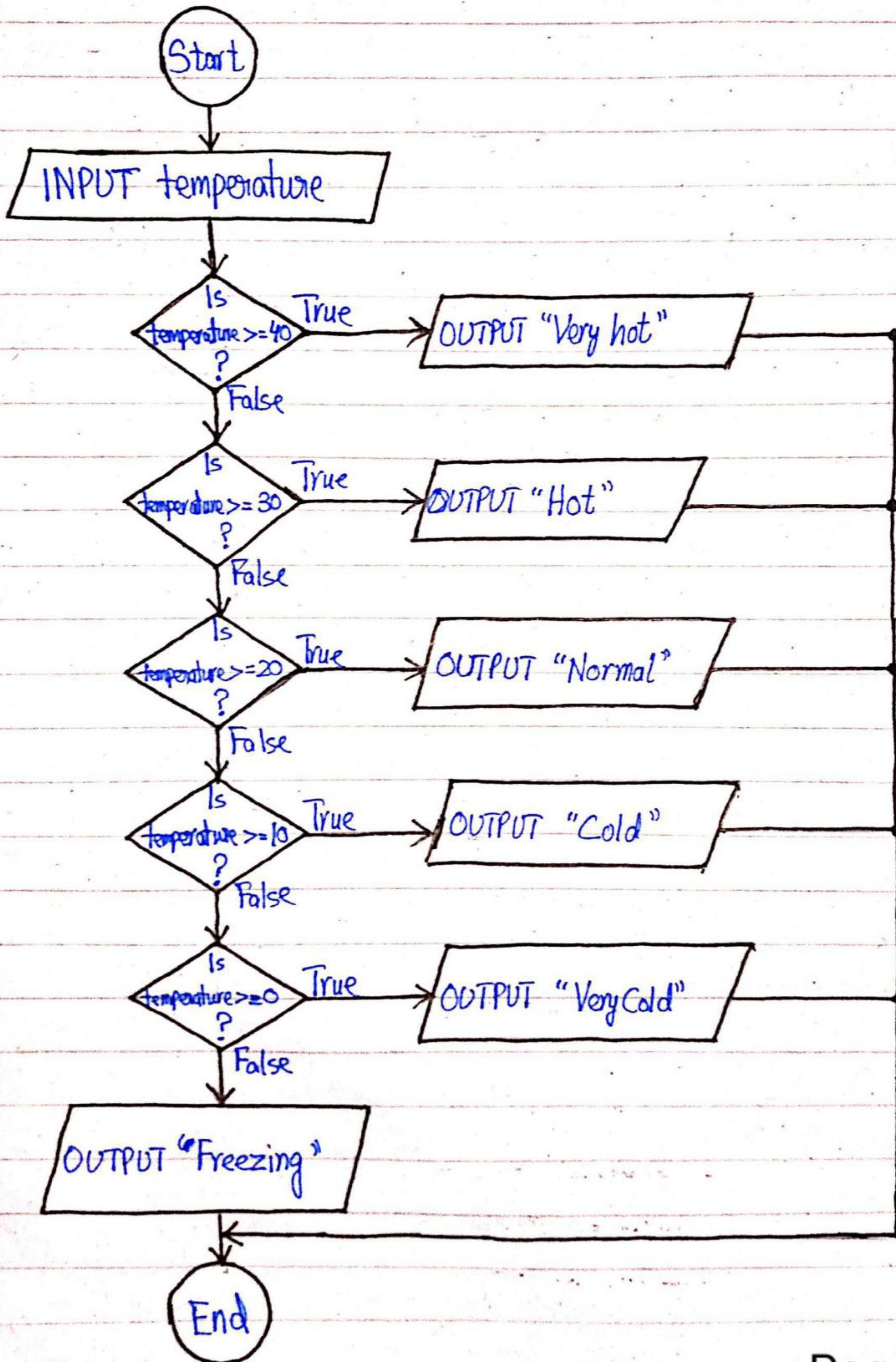
PROBLEM 3:



PROBLEM 4:



PROBLEM 5:



PROBLEM 6:

VARIABLES:

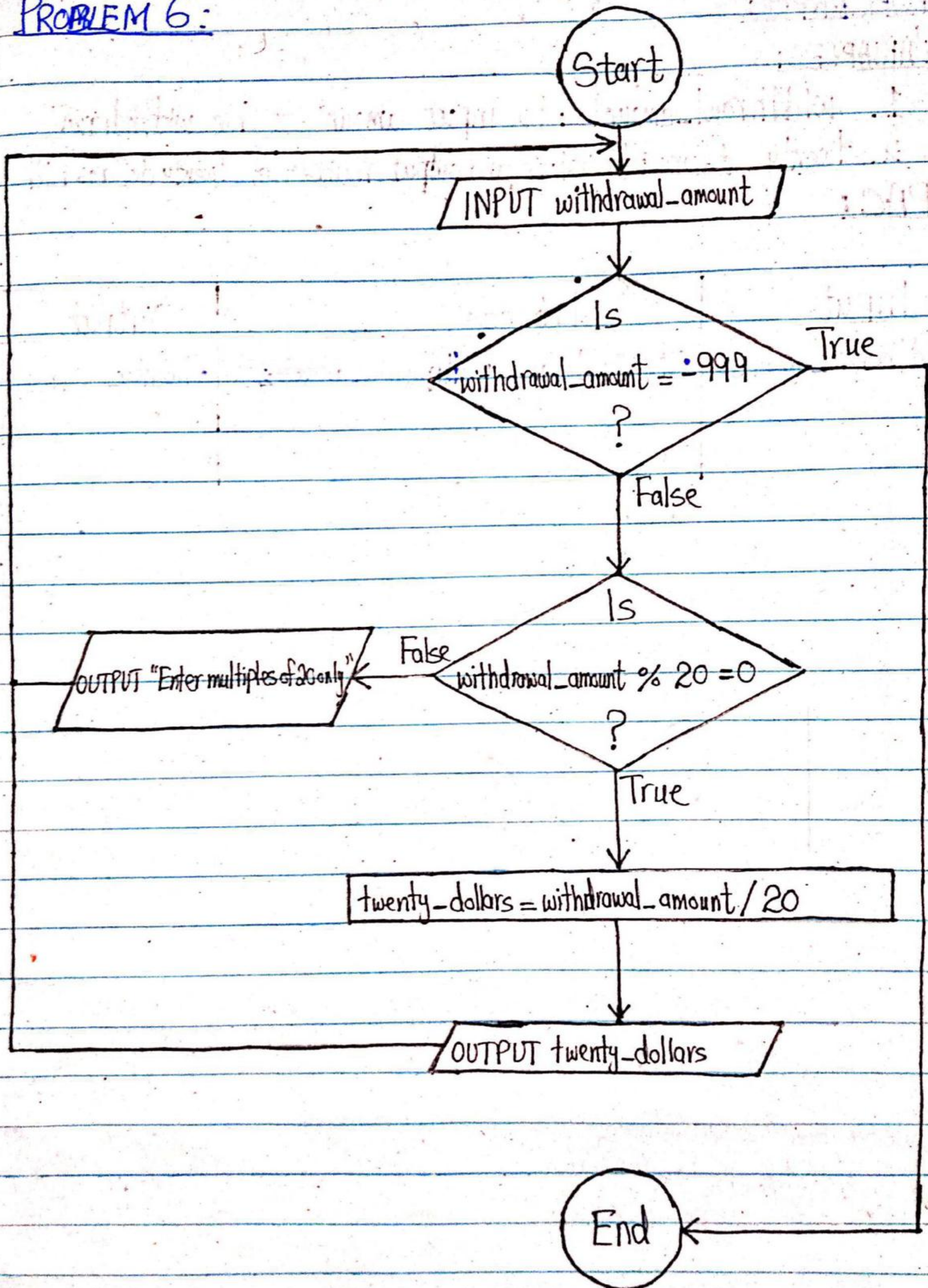
1. withdrawal_amount: to input amount to be withdrawn
2. twenty_dollars: to store and output number of twenty dollars bill

PAC:

Data	Processing	Output
withdrawal_amount	$\text{twenty_dollars} = \text{withdrawal_amount} / 20$	twenty_dollars

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PROBLEM 6:



PROBLEM 7:

Algorithm:

STEP 1: Set count to 0

STEP 2: Take input for the next item in the list

STEP 3: If that item is a tea, increment to value of count by 1

STEP 4: Go to STEP 2 and repeat these steps until items in the list are finished

STEP 5: Output the value of count

Pseudocode:

START

count = 0

DO

INPUT next-list-item

IF next-list-item = "Tea"

THEN

count = count + 1

ENDIF

WHILE list != FINISHED

OUTPUT count

END

PROBLEM 8:

START

INPUT operator

IF operator \neq 'q'

THEN

INPUT op1, op2

IF operator = '+'

THEN

OUTPUT (op1+op2)

sum = op1 + op2

sub = op2 - op1

IF sum > sub

THEN

OUTPUT "sum is greater"

ELSE

OUTPUT "sub is greater"

ENDIF

ELSE IF operator = '-'

THEN

OUTPUT (op2 - op1)

sub = op2 - op1

sum = op1 + op2

IF sum > sub

THEN

OUTPUT "Sum is greater"

ELSE

OUTPUT "sub is greater"

ENDIF

ELSE IF operator = '*'

THEN

OUTPUT (op1 * op2)

ELSE IF operator = '/'

THEN

IF op2 != 0

THEN

OUTPUT (op1 / op2)

ELSE

OUTPUT "Invalid Operation"

ENDIF

ELSE

OUTPUT "Invalid Operation"

ENDIF

ENDIF

END