Week 0:

ROLL NO.:240801175

Name: Levin Prince L

Ex. No.: 1 Date: 26/9/24

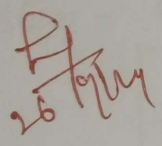
Calculate Area and Perimeter

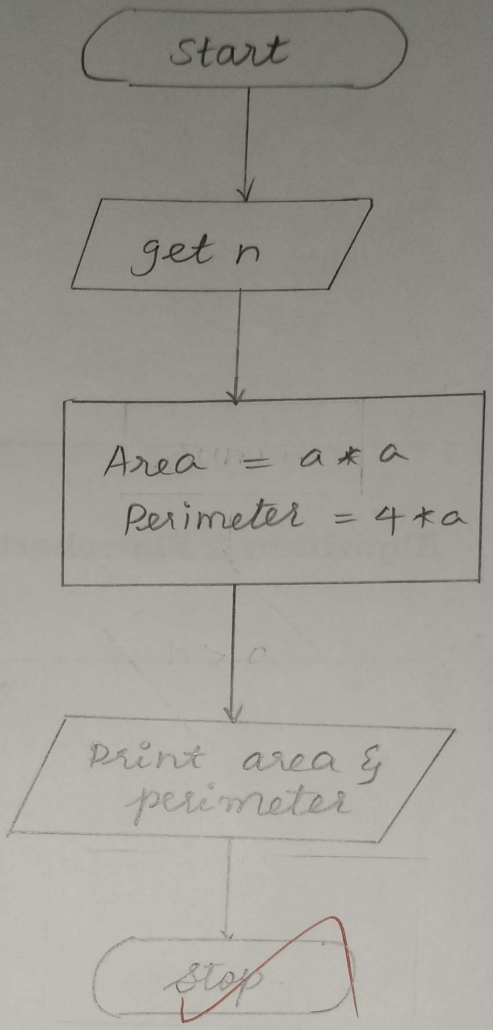
Write an Algorithm and draw a Flowchart to Calculate the area and perimeter of a square.

Algorithm:

step-1 : start
step-2 : Read a
step-3 : Area = a * a
step-4 : Perimeter = 4 * a
step-5 : Print Area & perimeter
step-6 : stop.

Flowchart:




Start
get n
Area = a * a
Perimeter = 4 * a
Print area & perimeter
Stop

Ex. No.: 2 Date: 26/9/24

Days to Year Conversion

Write an Algorithm and draw a Flowchart to convert the given days into years & months.

Algorithm:

step-1: start
step-2: Input number of days.
step-3: compute years = total days / 365

step-4: compute remaing days = total days %. 365

~~Flowchart~~:

step-5: compute months = remaing day / 30

step-6: compute days left = remaining days %. 30

step-7:- Print years, months, days

step-8:- stop.

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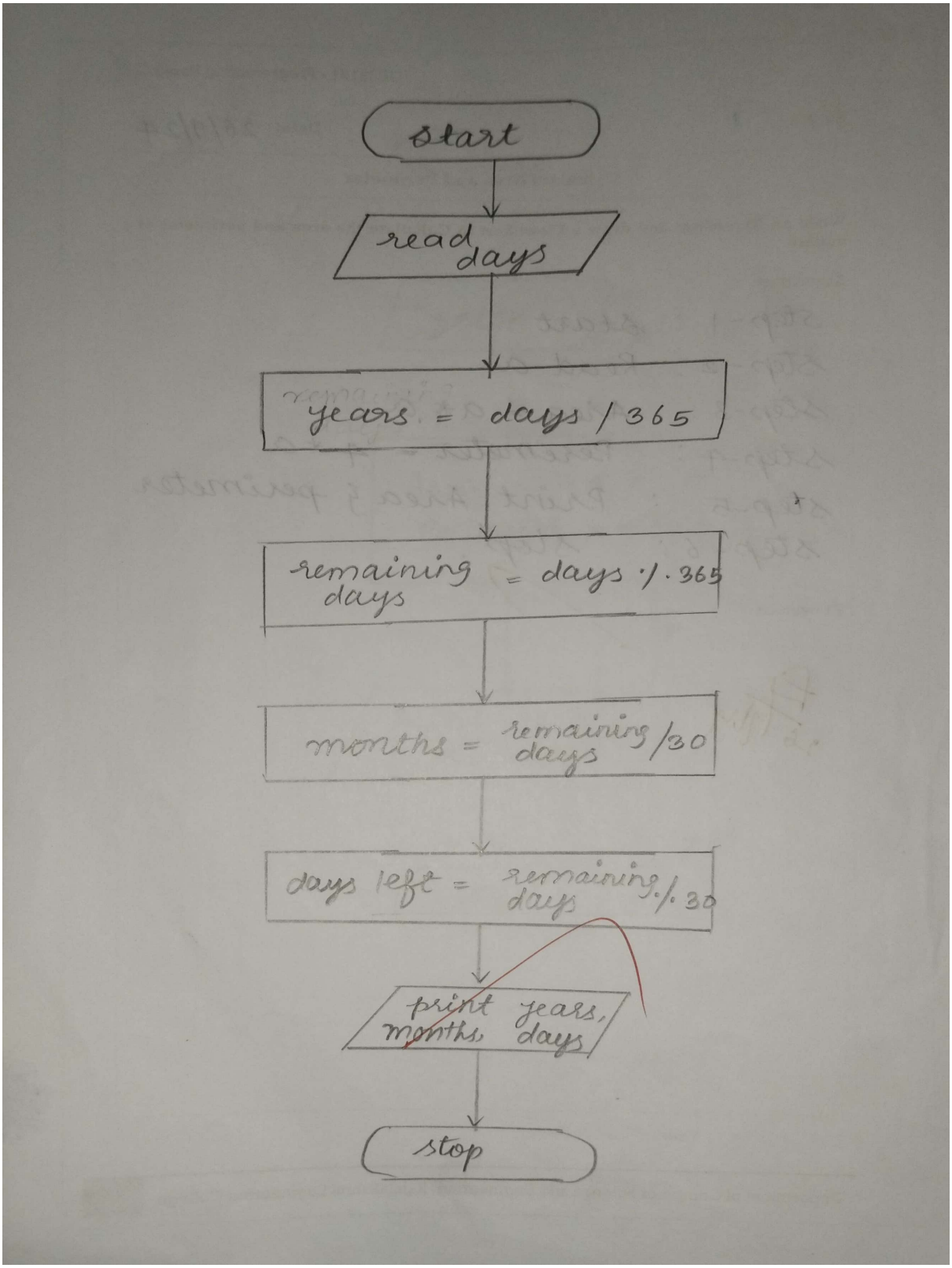
start
read days
years = days / 365
remaining days = days % 365
months = remaining days / 30
days left = remaining days % 30
print years, months, days
stop

Ex. No.: 3 Date: 26/9/24

Prime Number

Write an Algorithm and draw a Flowchart to check whether the given number is Prime or not.

Algorithm:

step-1 : start
step-2 : read n
step-3 : set f = 1
step-4 :- If 'n' = = 1 then
print "n" is not prime number
goto step 8

~~Flowchart~~:

step-5 :- for i = 2 to n-1
step-6 :- If n % i = = 0 then
set f = 0 break
else goto step 5

step-7 :- If f = = 0 then
Print ("n is not prime number")
else
Print "n is prime number"

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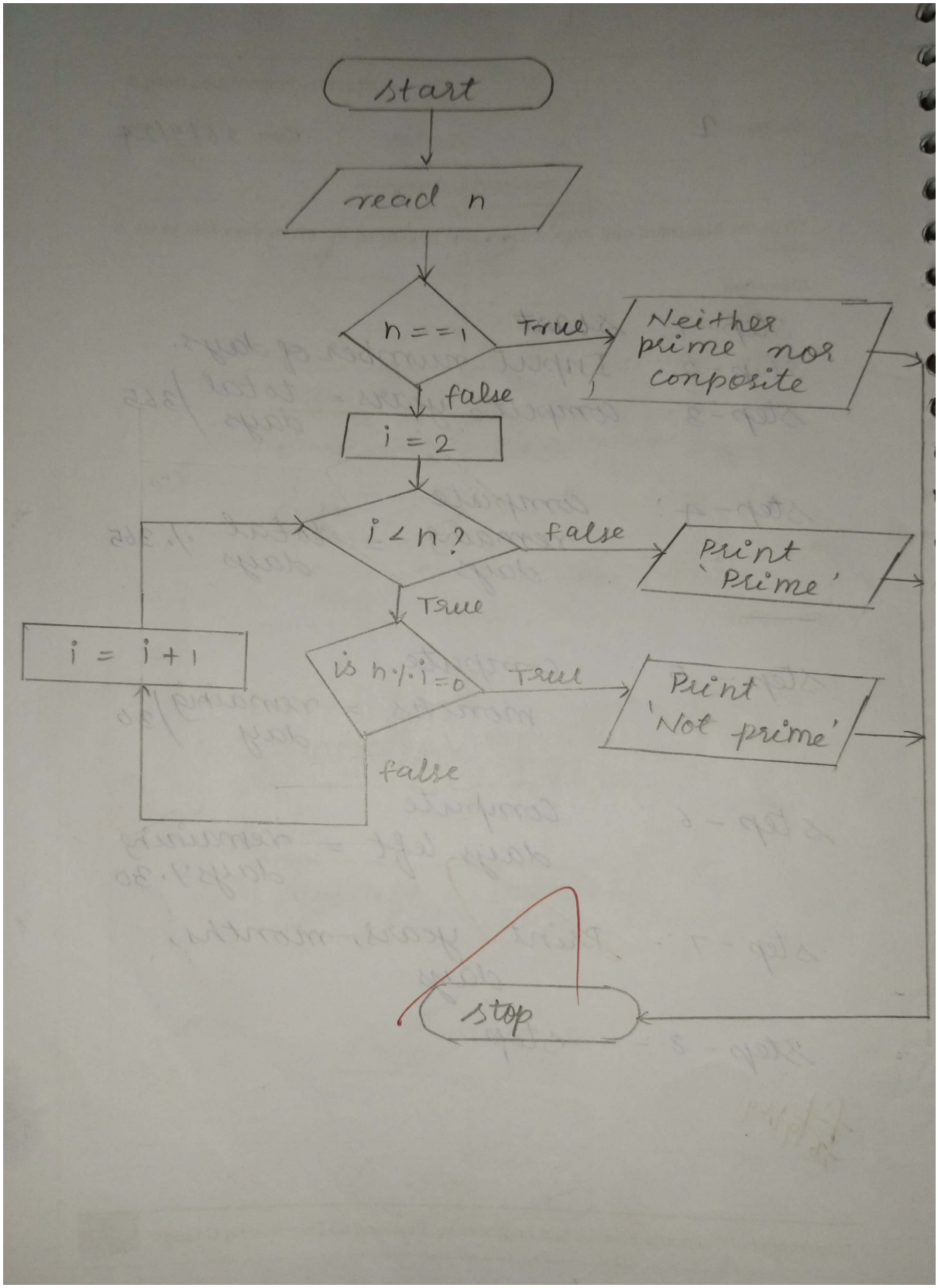
step-8 : stop.


start
read n
n==1
True
Neither prime nor composite
false
i = 2
i < n ?
false
Print 'Prime'
True
i = i + 1
is n%i==0
True
Print 'Not prime'
false
stop

Ex. No.: 4 Date: 23/9/24

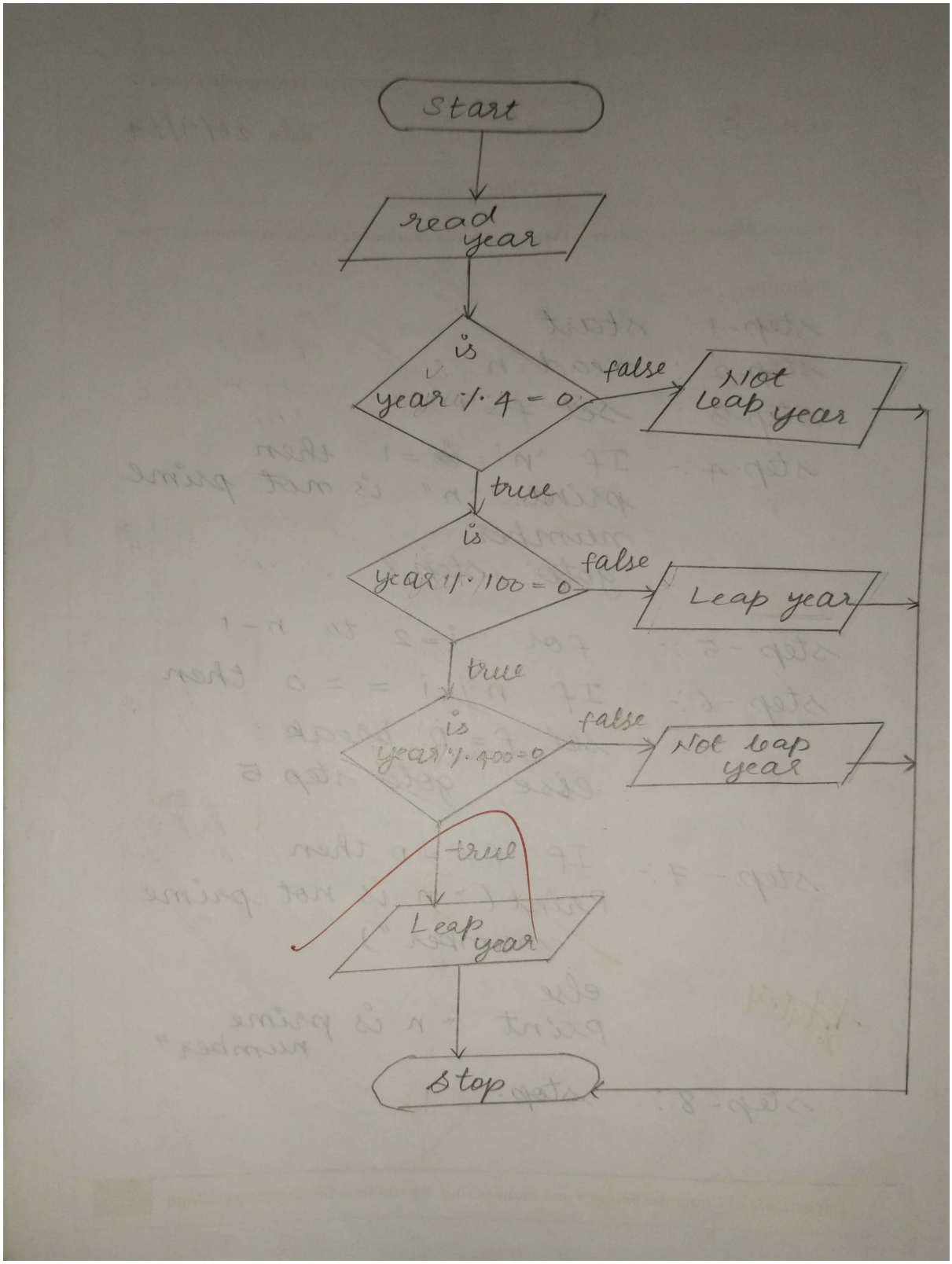
Leap Year

Write an Algorithm and draw a Flowchart to check whether the given year is Leap year or not.

Algorithm:

step-1 : start
step-2 : read year, rem1, rem2, rem3.
step-3 : rem1 = year %. 4
step-4 : If rem1 == 0
step-5 : rem2 = year %. 100
step-6 : If rem2 == 0 goto step 7 else print "Not Leap year"
step-7 : rem3 = year %. 400
step-8 :- If rem3 == 0 print " Leap year"
step-9 :- stop.

~~Flowchart~~:


Start
read year
is year % 4 = 0
false
Not Leap year
true
is year % 100 = 0
false
Leap year
true
is year % 400 = 0
false
Not leap year
true
Leap year
Stop

Ex. No.: 5 Date: 28/9/24

Palindrome Number

Write an Algorithm and draw a Flowchart to check whether the given number is palindrome number or not.

Algorithm:

step-1: start
step-2: read n
step-3: initialize Elements
original = n, reversed = 0
step-4: while n > 0
reverse *= 10 + n%10
update n = n/10 ~~goto~~
step-5: If original == reverse
Print "palindrome"
step-6: else
Print "Not palindrome"
step-7: Stop.

Flowchart:

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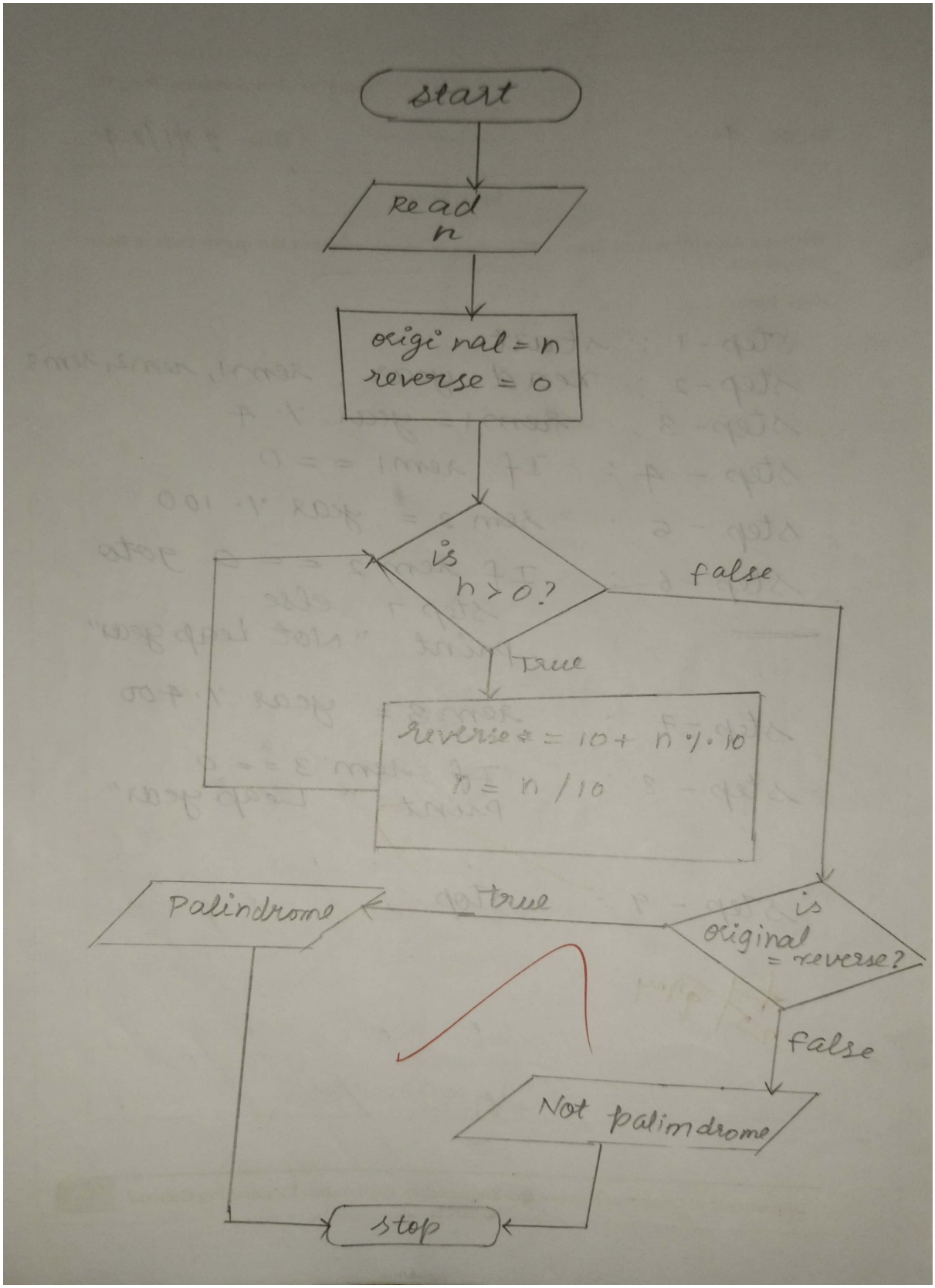
start
Read n
original = n
reverse = 0
is n > 0?
false
true
reverse *= 10 + n % 10
n = n / 10
Palindrome
true
is original = reverse?
false
Not palindrome
stop

Ex. No.: 6 Date: 28/9/24

Sum of Digits

Write an Algorithm and draw a Flowchart to calculate the sum of digits in the given number.

Algorithm:

step - 1: start
step - 2: read n
step - 3: initialize sum = 0
step - 4: while n > 0 if true goto step 5 else goto step 7

~~Flowchart:~~

step - 5: sum += n % 10
step - 6: n = n / 10 goto step - 4
step - 7: print "sum"
step - 8: stop.

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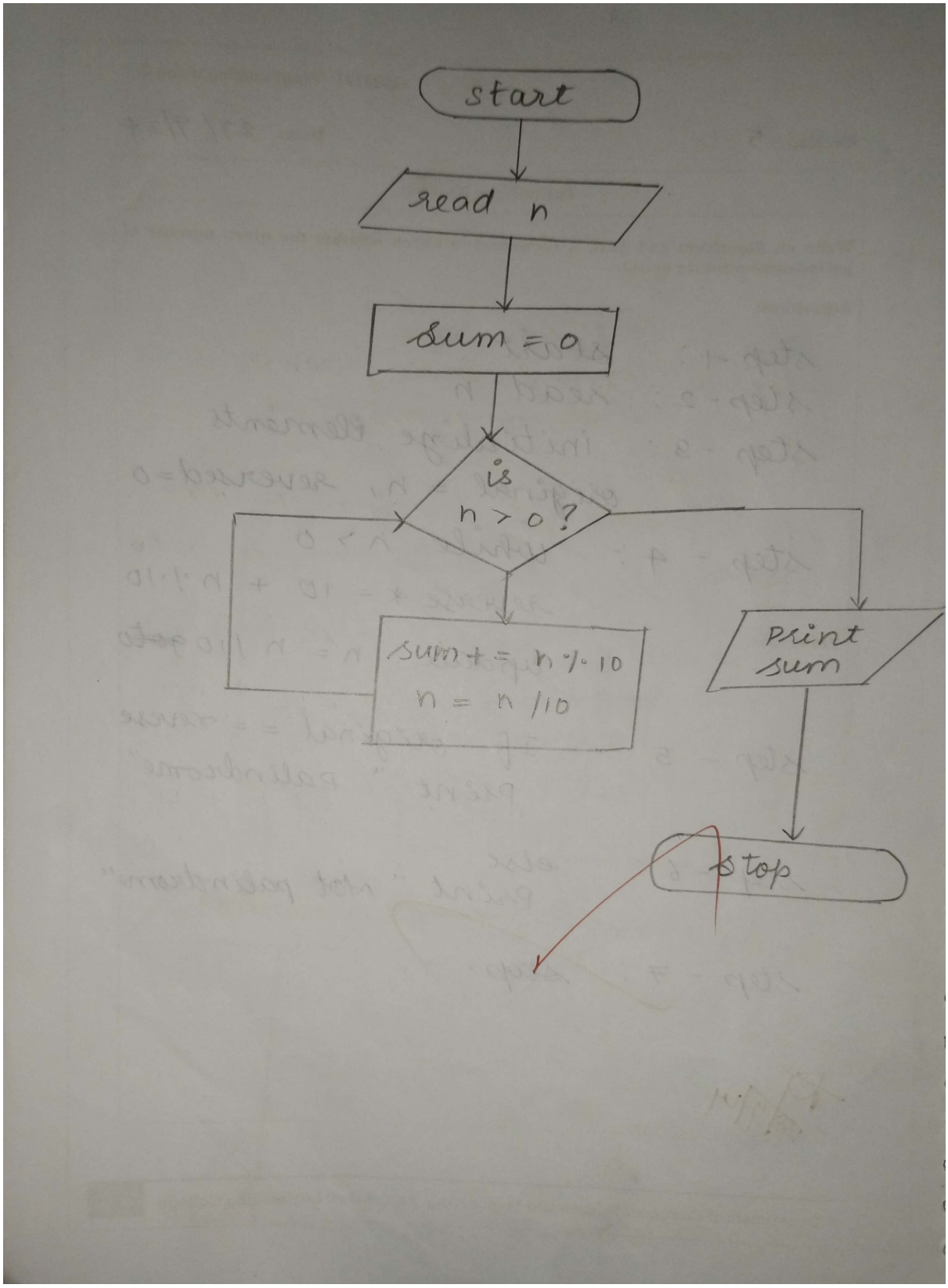
start
read n
sum = 0
is n > 0 ?
sum += n % 10
n = n / 10
Print sum
stop