

GE 23131 – Programming using C

LABORATORY MANUAL

NAME: KEERTHANA S

REGISTER NO: 240801161

YEAR: Ist year

**BRANCH: ELECTRONICS AND
COMMUNICATION ENGINEERING
(ECE)**

SECTION: C

SEMESTER: I

ACADEMIC YEAR: 2024-2025

WEEK:0

ALGORITHM AND FLOWCHART

WEEK:0

ROLL NO: 240801161

NAME: KEERTHANA S

QUESTION:1

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 l .

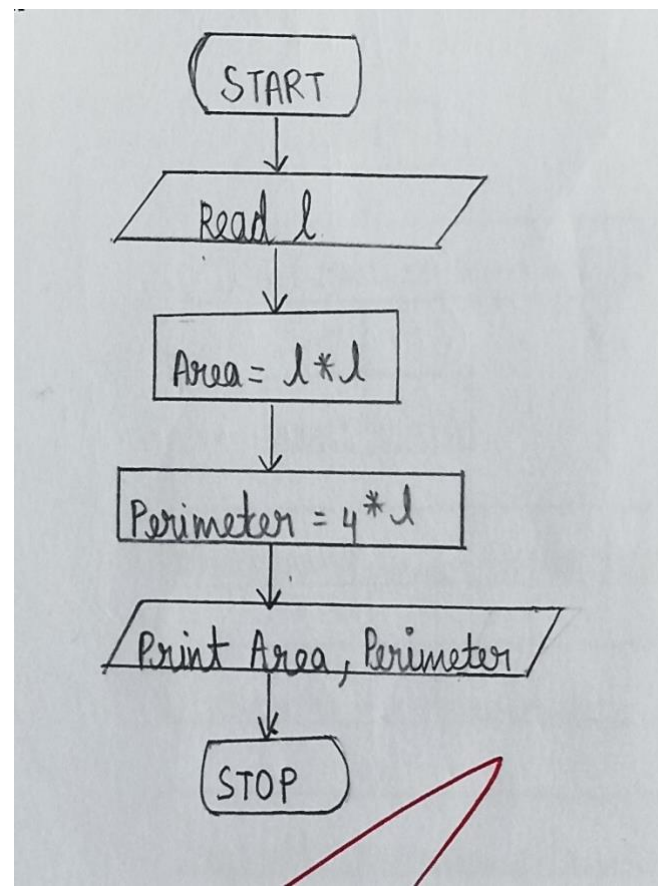
STEP:3: Area = $l * l$

STEP:4: Perimeter = $4 * l$

STEP:5: Print Area, Perimeter

STEP:6: STOP.

FLOWCHART:



QUESTION:2

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 no. of days
STEP:3: calculate the no. of years
$$\text{year} = \text{days} / 365$$

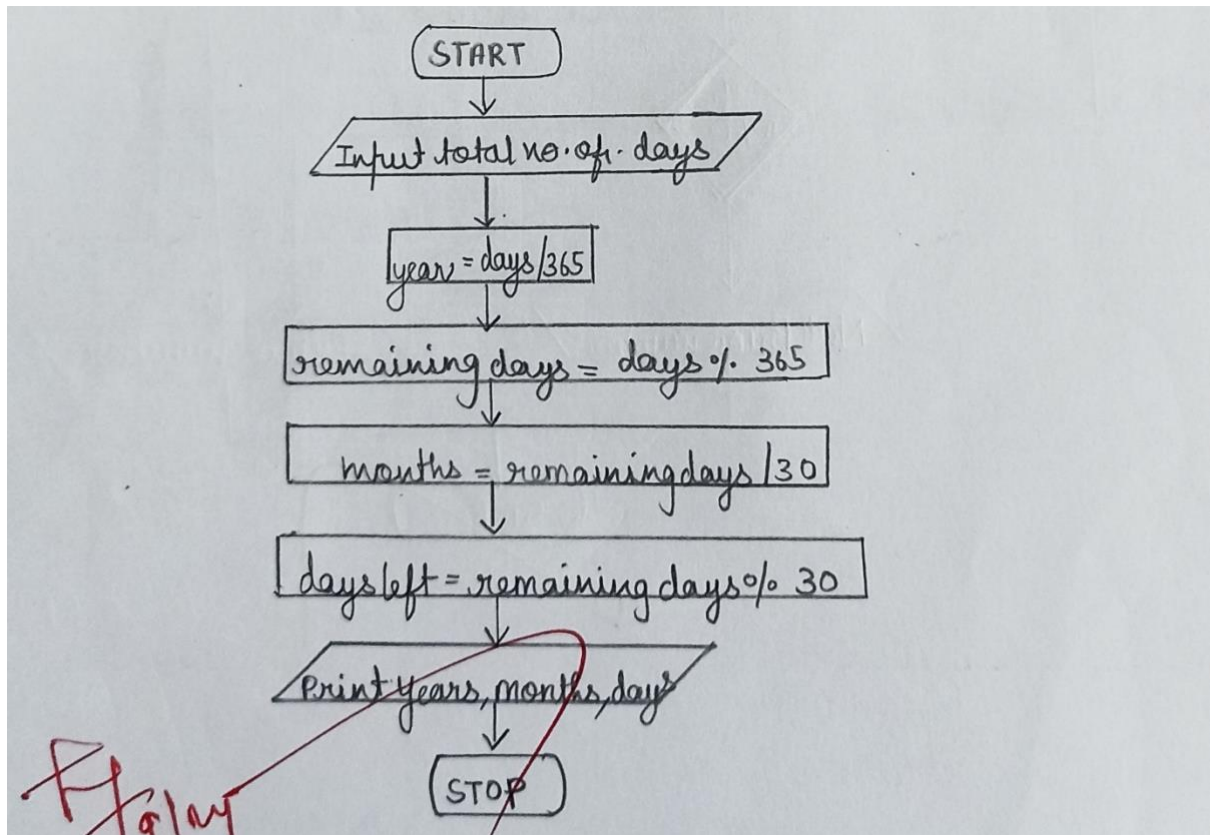
STEP:4: calculate the remaining days after calculating year
$$\text{remaining days} = \text{days} \% 365$$

STEP:5: calculate the number of months
$$\text{months} = \text{remaining days} / 30$$

STEP:6: calculate the remaining days after calculating months
$$\text{days left} = \text{remaining days} \% 30$$

STEP:7: Print the years, months, days left
STEP:8: STOP

FLOWCHART:



QUESTION:3

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: Input number n

STEP:3: Set $i=2$

STEP:4: If n is less than or equal to 1, print "not Prime number" and go to step 7

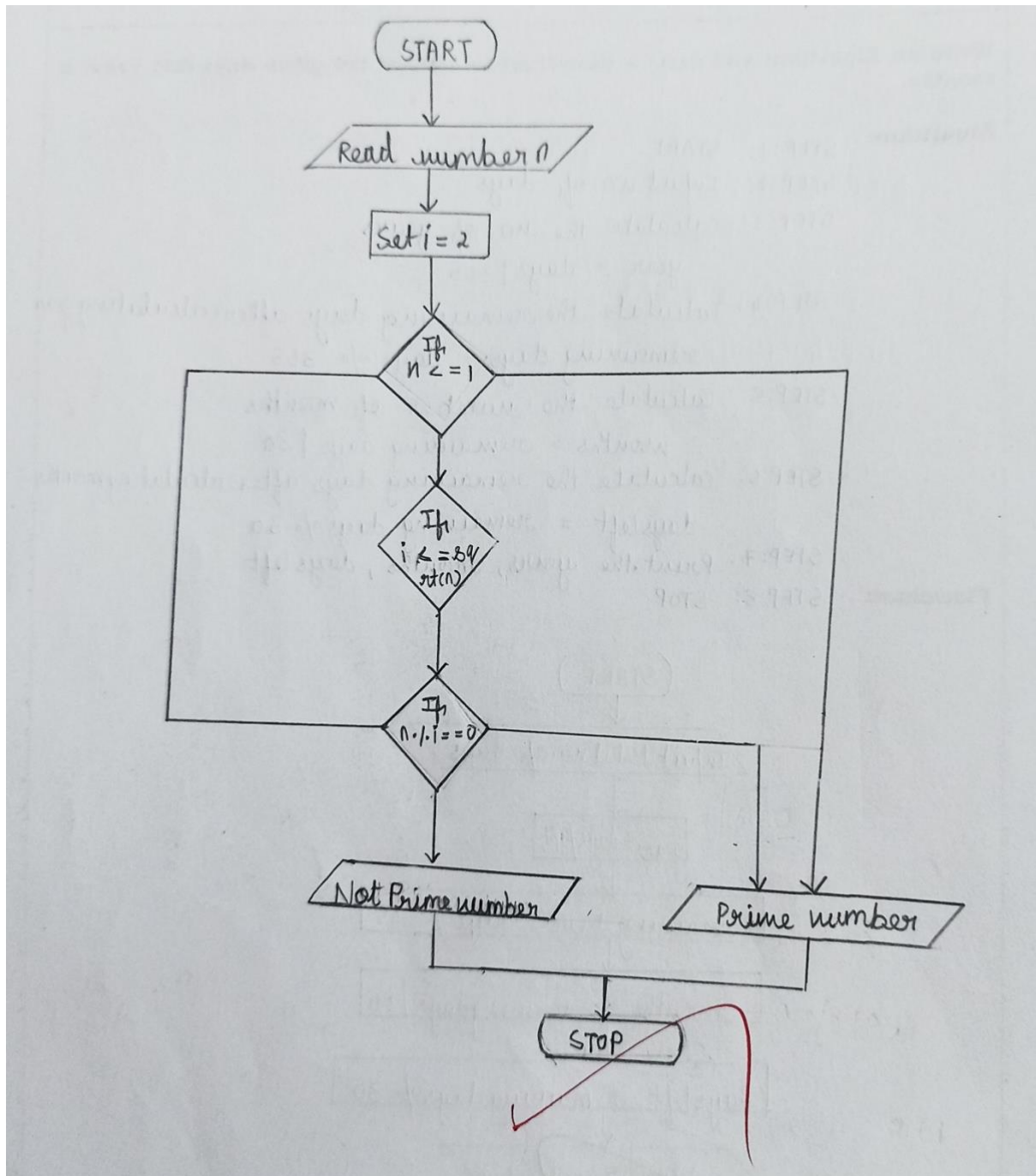
STEP:5: For $i=2$ to \sqrt{n} :

 If $n \% i == 0$, print "not prime number" then go to step 7

STEP:6: If no divisor is found, print "Prime Number"

STEP:7: STOP

FLOWCHART:



QUESTION:4

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 a.

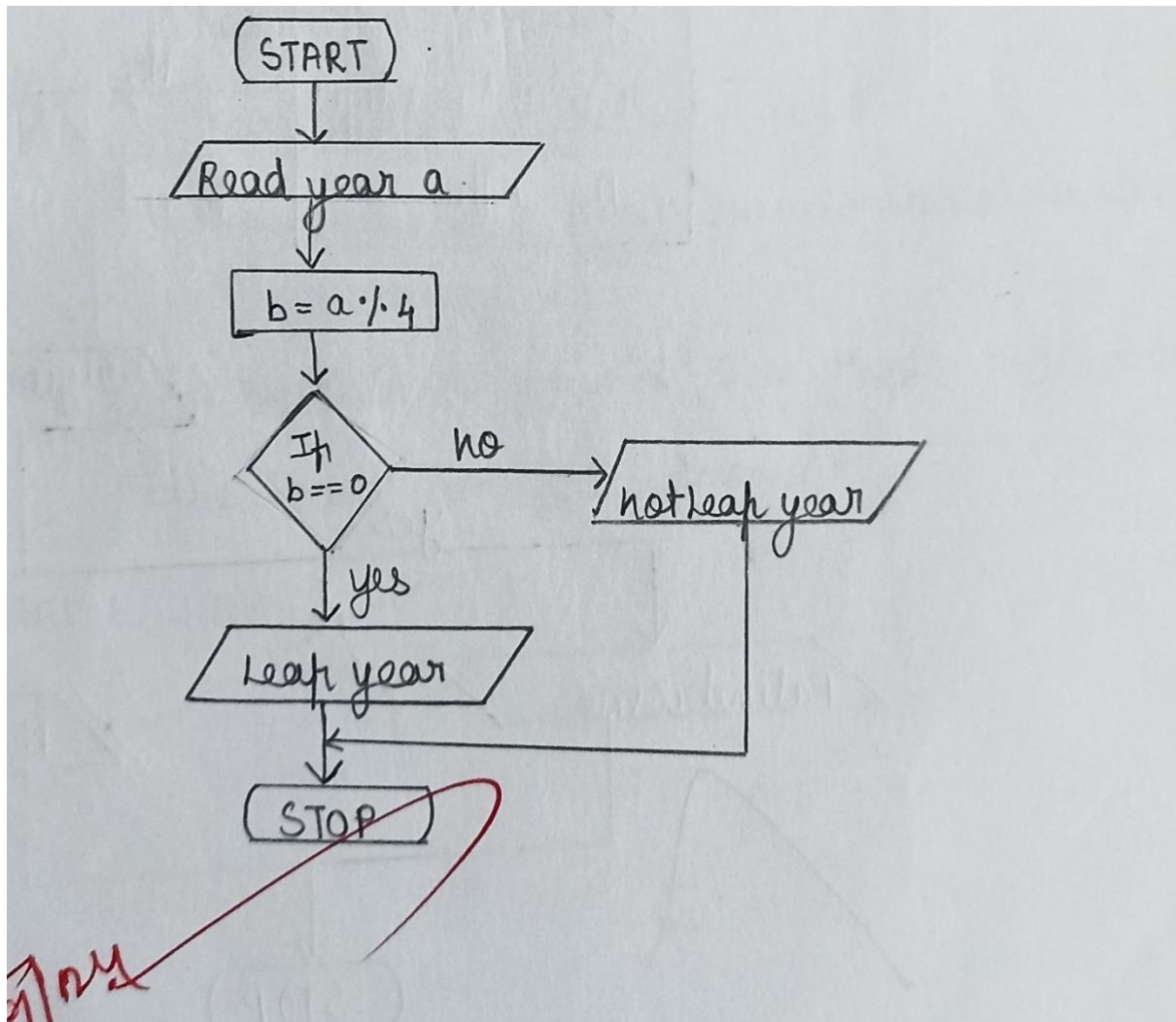
STEP:3: Divide the year by four

STEP:4: Print if the year is divisible by 4 then it is
Leap year

STEP:5: Print if the year is ~~not~~ divisible by 4 then it is
not Leap year

STEP:6: STOP

FLOWCHART:



QUESTION:5

PALINDROME NUMBER

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

ALGORITHM:

STEP:1: START

STEP:2: Input the number n

STEP:3: Initialize reversed number as 0 and original number n .

STEP:4: Repeat the following steps until n becomes 0

- Extract the last digit of original number
 $digit = n \% 10$

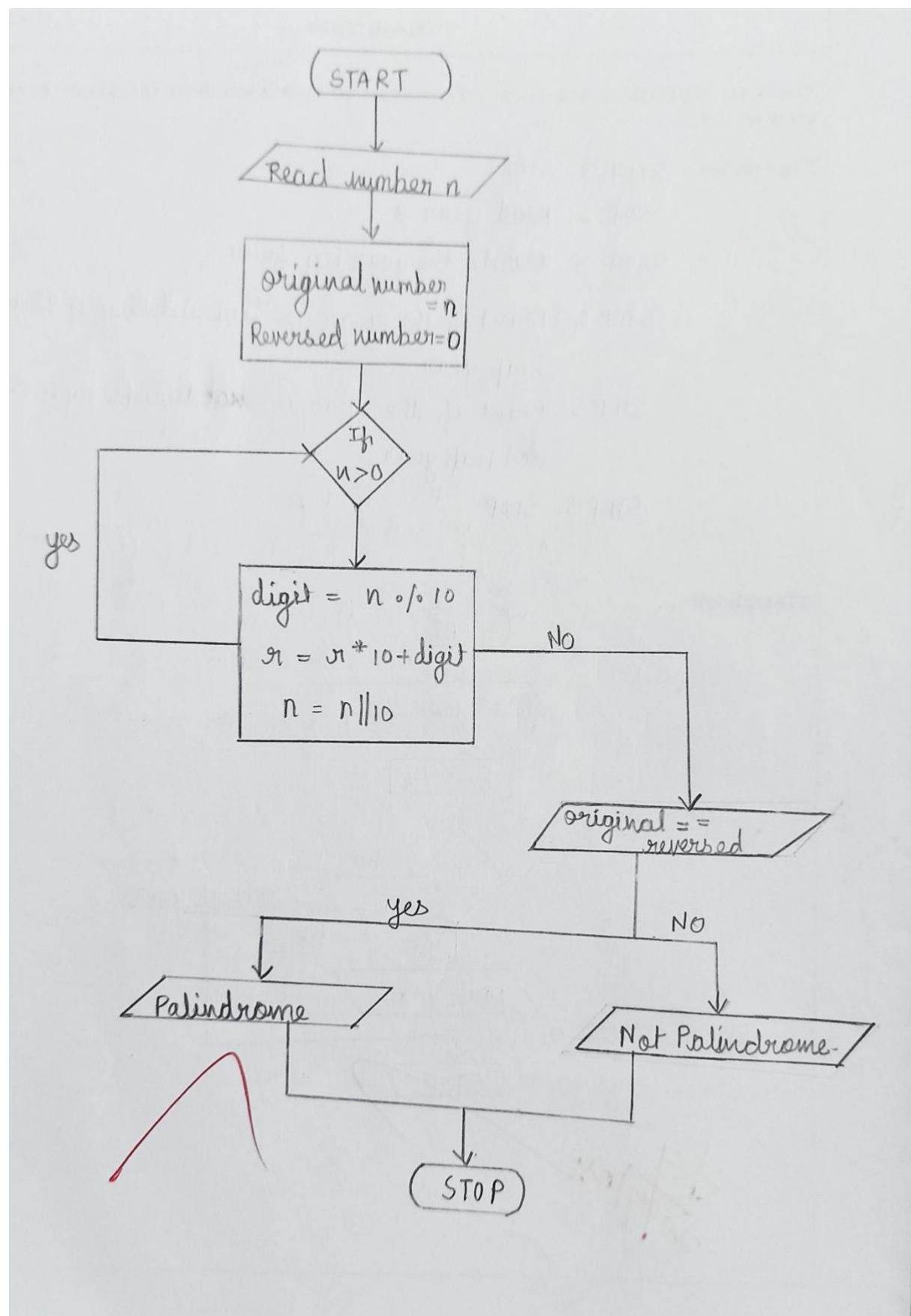
- Add this digit to reversed number
 $reversed(x) = x * 10 + digit.$

- Remove the last digit from original number
 $n = n // 10.$

STEP:5: If number $n == rev$ then Print Palindrome
Else Print not palindrome.

STEP:6: STOP.

FLOWCHART:



QUESTION:6

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: Input the number n

STEP:3: Initialize sum as 0 and number as n

STEP:4: Repeat the following steps until n becomes 0

◦ Extract the last digit of n :

$$\text{digit} = n \% 10$$

◦ Add this digit to sum:

$$\text{sum} = \text{sum} + \text{digit}$$

◦ Remove the last digit from n

$$n = n // 10$$

STEP:5: Output the sum

STEP:6: STOP

FLOWCHART:

