PROGRAMMING USING C

WEEK 0-ALGORITHM FLOWCHART

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Ex. No.: 1 **Date:** 3-10-2024

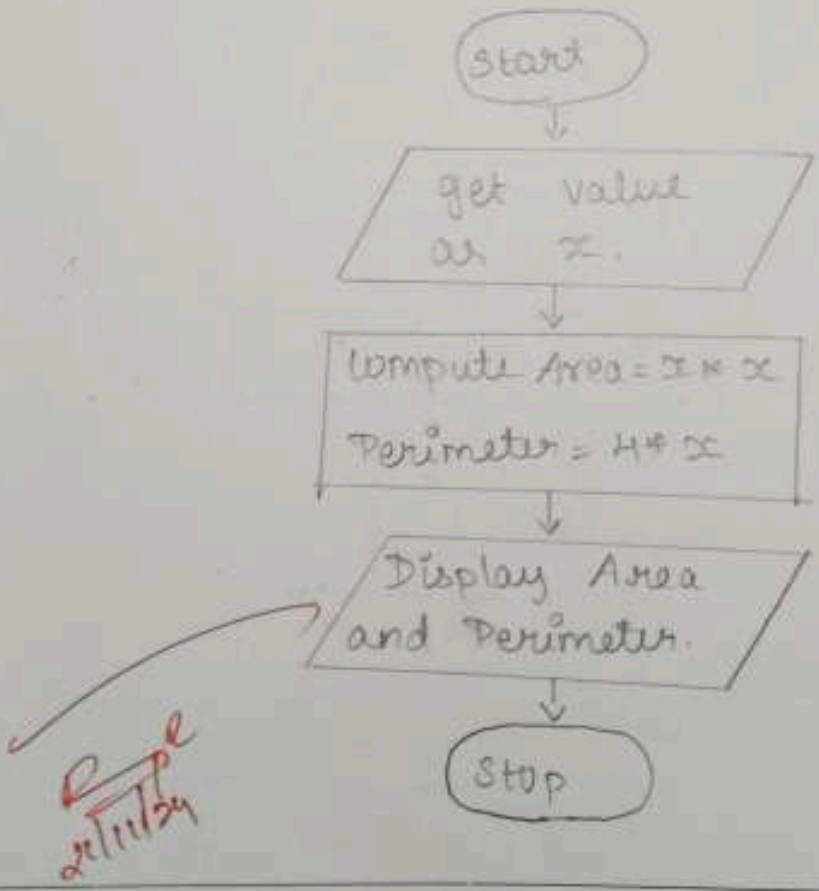
Calculate Area and Perimeter

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

Algorithm:

Step-1 : Start
Step-2 : Get side as x
Step-3 : Compute Area = x*x , perimeter = 4*x
Step-4 : Display Area and Perimeter
Step-5 : Stop.

Flowchart:



Date: 3·10·2024

Ex. No.: 2

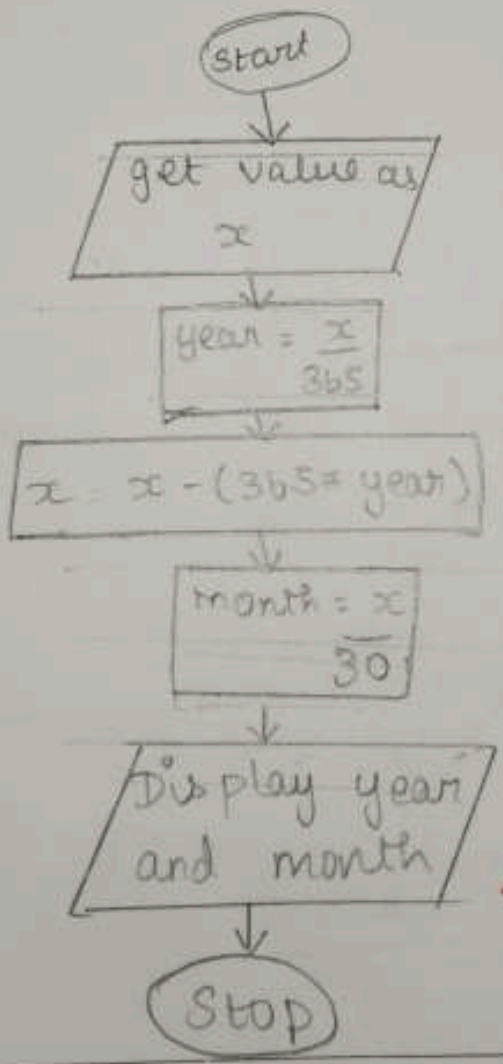
Days to Year Conversion

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

Algorithm:

Step-1 : Start
Step-2 : get no. of days as x
Step-3 : compute years = x/365
Step-4 : x = x - (365 * years)
Step-5 : compute month = x/30
Step-6 : Display year and month
Step-7 : Stop.

Flowchart:



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Ex. No.: 3

Date: 3.10.2024

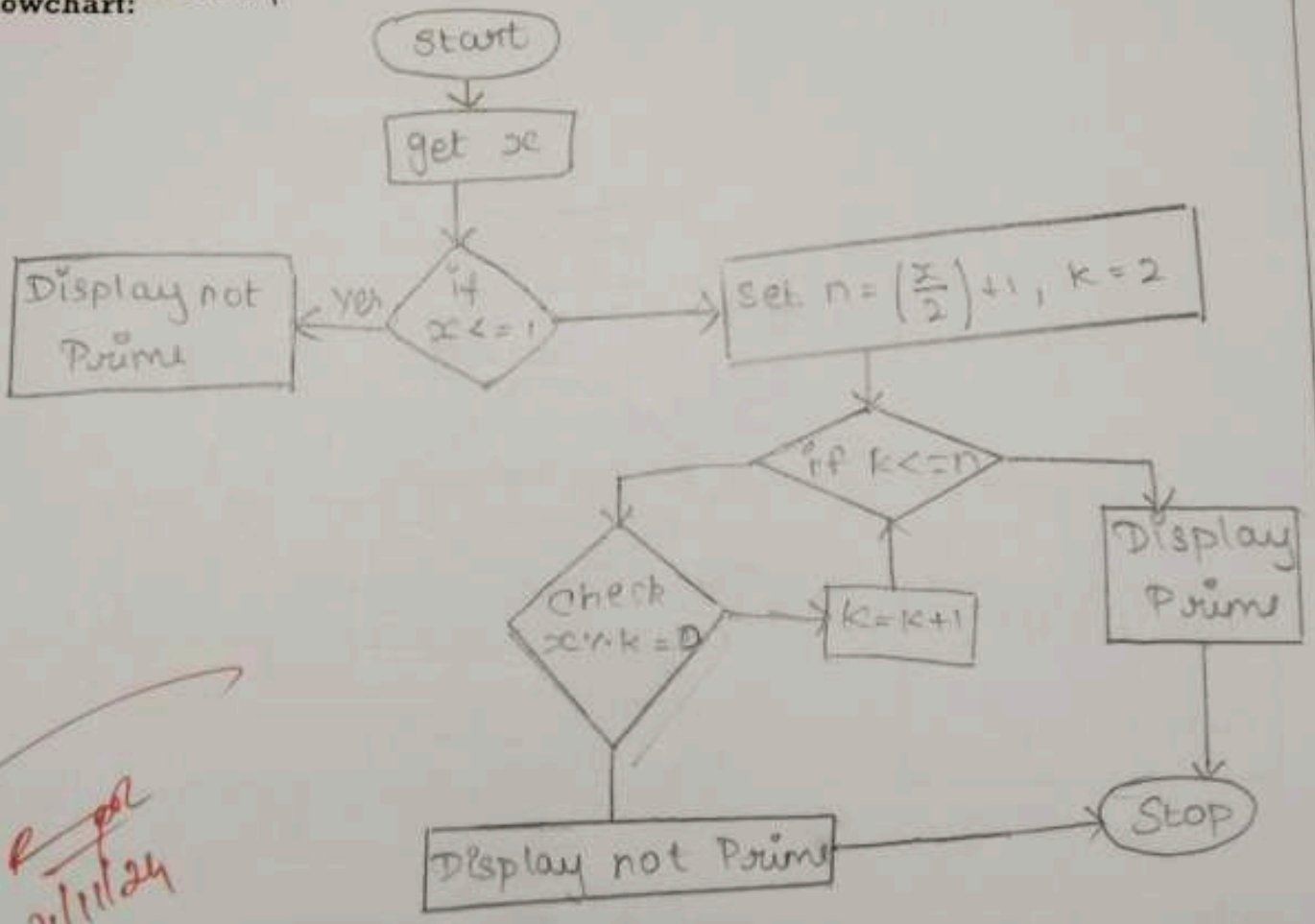
Prime Number

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

Algorithm:

Step-1: Start
Step-2: get x
Step-3: check whether x<=1, else go 5.
Step-4: Display not a prime
Step-5: Set $n = (\frac{x}{2}) + 1$, $k = 2$
Step-6: if $k \leq n$, otherwise go 10
Step-7: check $x \% k == 0$, otherwise go 9.
Step-8: Display not a prime. Set $k = k + 1$ go to 6.
Step-9: Display prime
Step-10: Stop

Flowchart:



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Date: 3.10.2024

Ex. No.: 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: get year

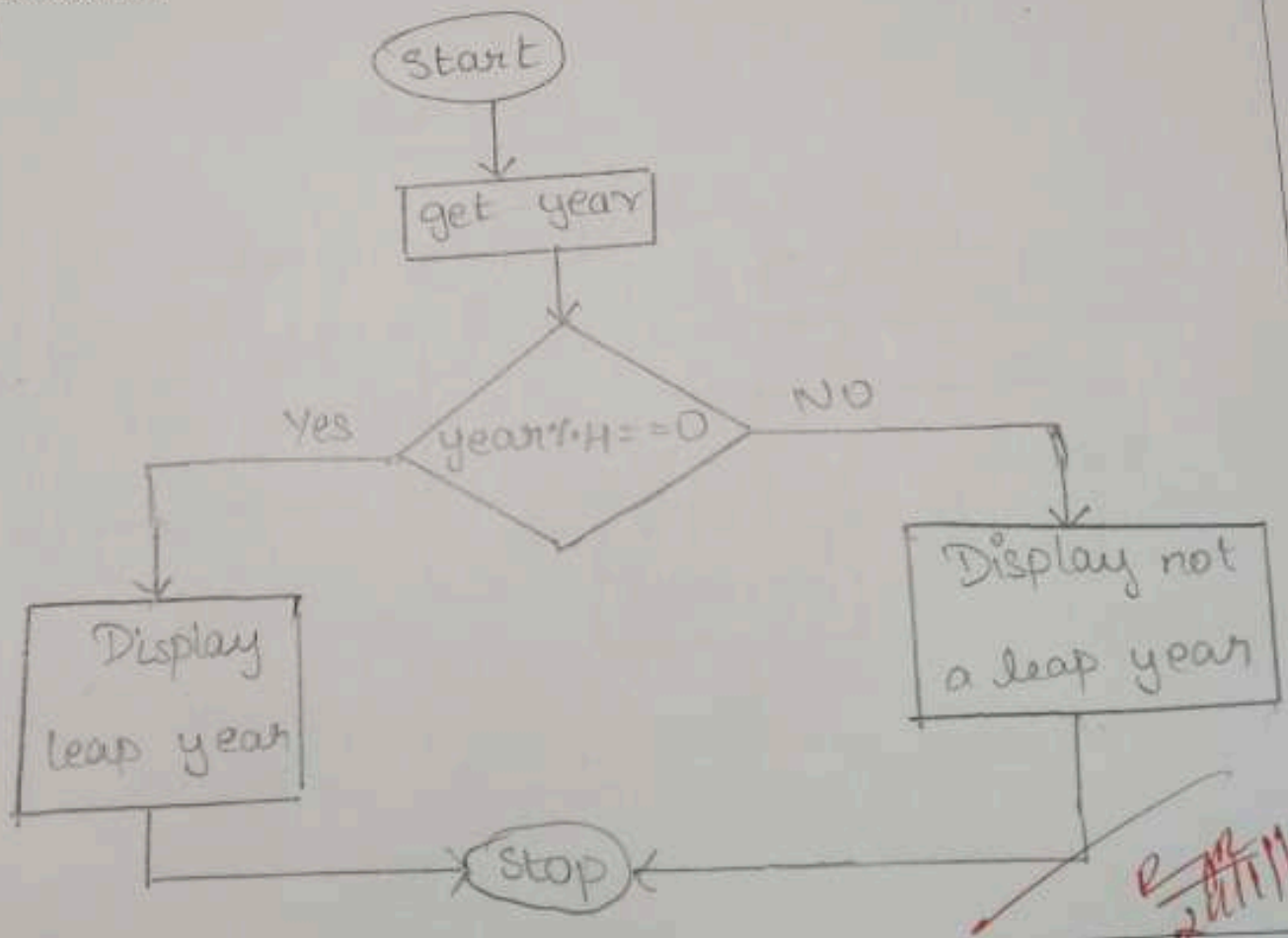
Step-3: check If (year % 4 == 0)

Step-4: ~~Da~~ Display leap year

Step-5: Else, Display not a leap year.

Step-6: Stop.

Flowchart:



Ex. No.: 5 **Date:** 3.10.2024

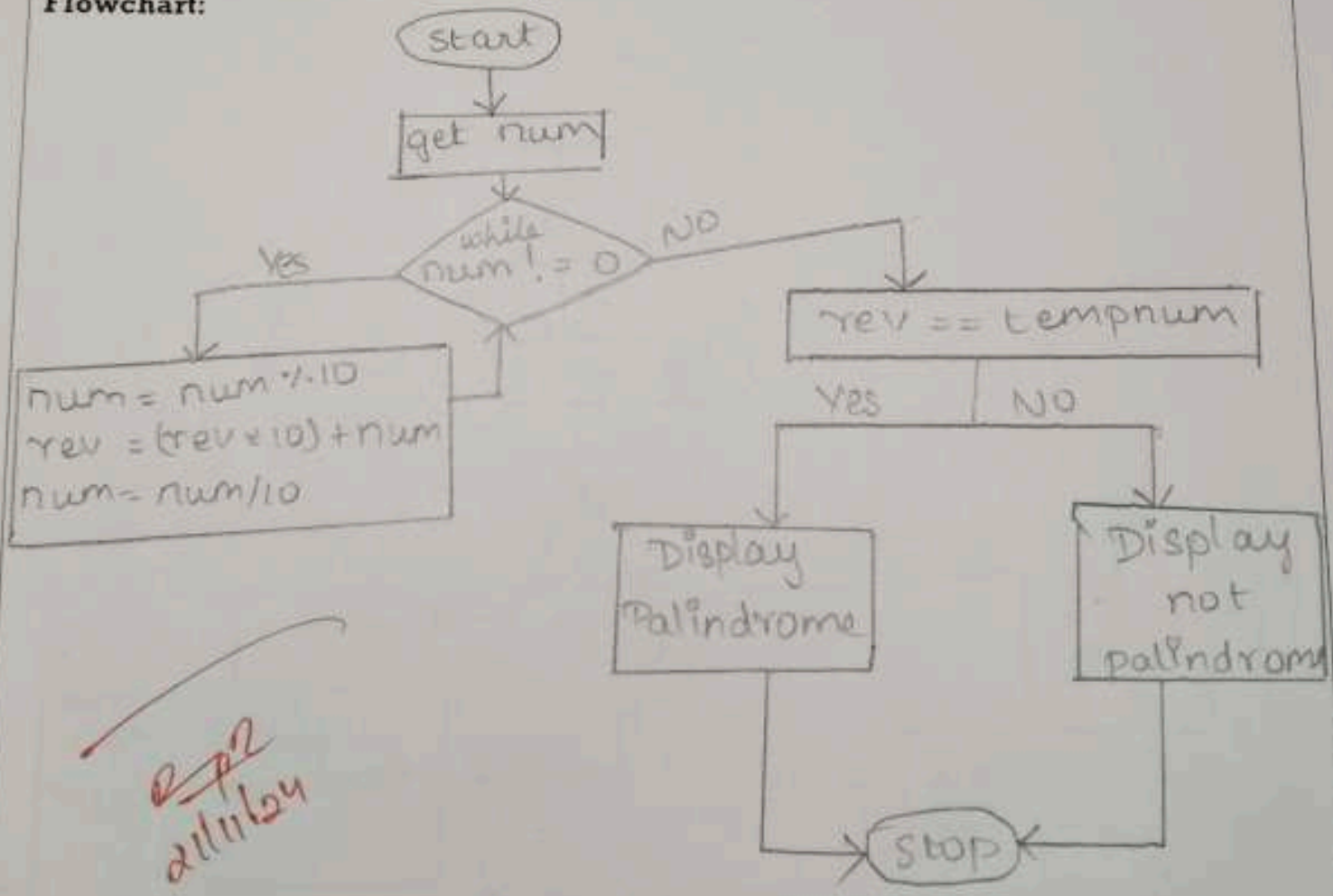
Palindrome Number

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

Algorithm:

Step-1 : Start
Step-2 : get num
Step-3 : Declare rev = 0 & tempnum = num
Step-4 : Use while loop (num != 0)
num = num % 10
rev = rev * 10 + num
num = num/10
Step-5 : check if (rev == tempnum)
Step-6 : If true display palindrome
Step-7 : else display not a palindrome
Step-8 : Stop.

Flowchart:



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Ex. No.: 6 **Date:** 3·10·2024

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 : get n
Step-3 : Initialize sum = 0
Step-4 : use while loop (n!.= 0)
rem = n%.10{
Sum = Sum + rem
n = n/10
Step-5 : Display sum
Step-6 : End.

Flowchart: