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GE23131 - Programming Using C

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  $l$

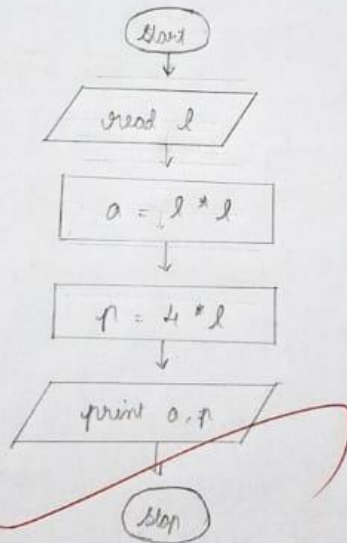
Step 3 :  $a = l * l$

Step 4 :  $p = 4 * l$

Step 5 : print  $a, p$

Step 6 : Stop

Flowchart:



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Ex. No.: 2

Date: 26.9.24

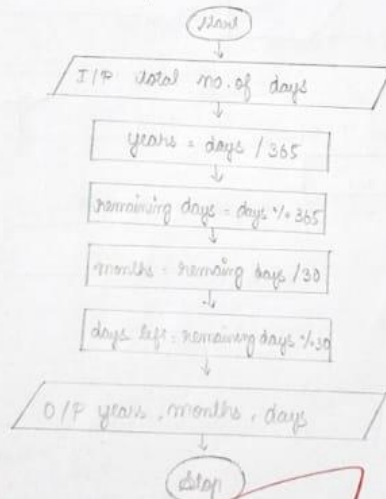
### Days to Year Conversion

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

Algorithm:

- Step 1 : Start
- Step 2 : Input no. of days
- Step 3 : Calculate the no. of year,  $\text{years} = \text{days} // 365$
- Step 4 : Calculate the remaining days after calculating years  
 $\text{remaining-days} = \text{days} \% 365$
- Step 5 : Calculate the no. 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 : Output years, months, days
- Step 8 : Stop

Flowchart:



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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: Input the number
- Step 3: If  $i = 2$  and  $i \leq n$ , go to step 7
- Step 4:  $i \% 2 = 0$ , go to step 7
- Step 5:  $i = i + 1$
- Step 6:  $i = i + 1$ , goto step 3

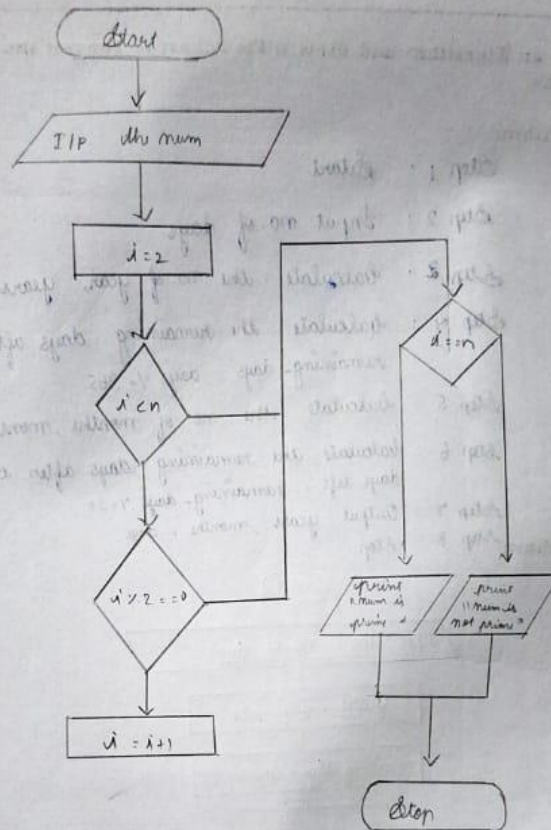
Flowchart:

- Step 7: If the  $i = n$ 
  - print "num is prime"
  - else
  - print "num is not prime"
- Step 8: Stop

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Ex. No.: 4

Date: 28.9.24

### 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

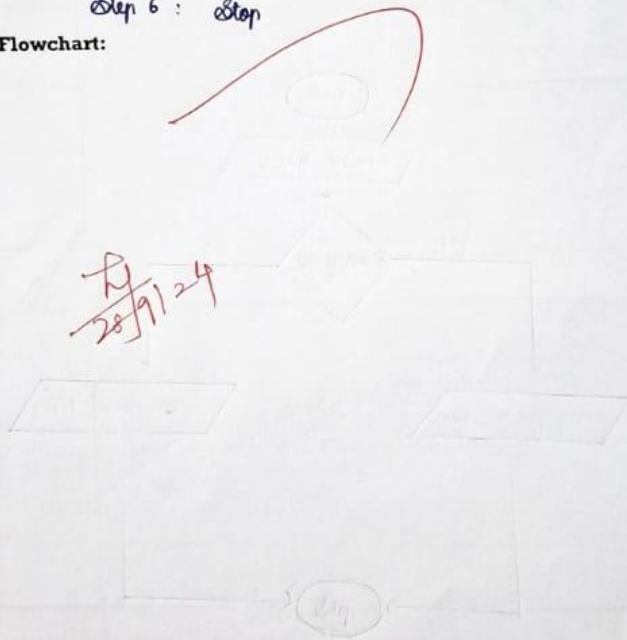
Step 3: if  $y \% 4 == 0$  goto step 4

Step 4: print "leap year"

Step 5: else  
print "non leap year"

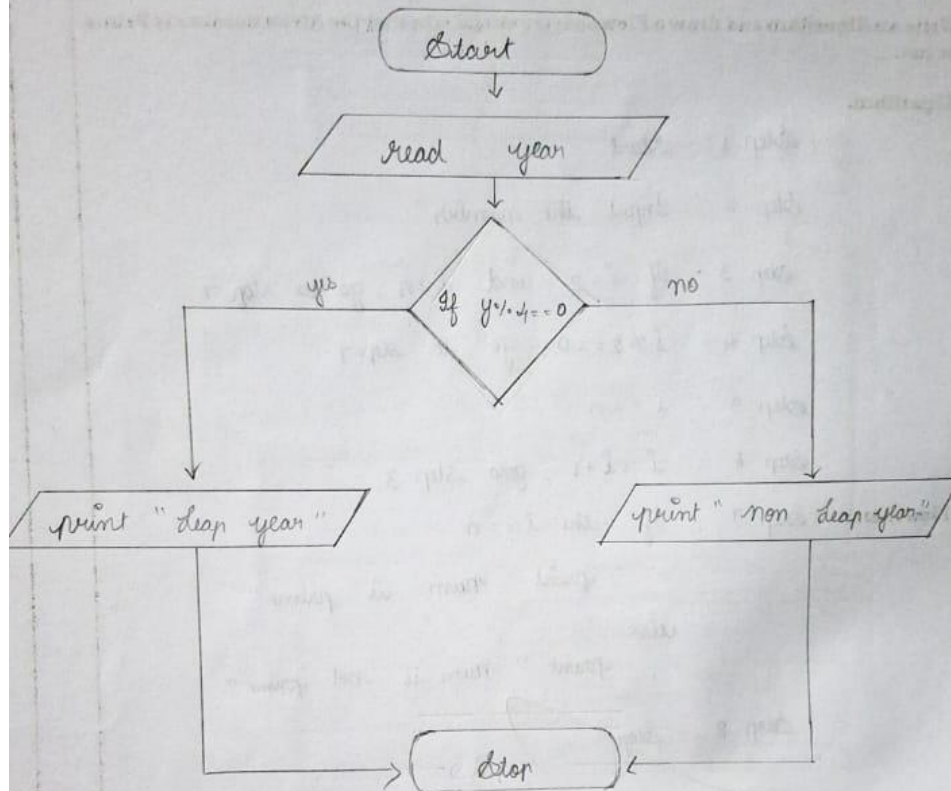
Step 6: Stop

Flowchart:



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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 the number n

Step 3: Initialize

\* Set digit =  $n \bmod 10$

\* update reversed =  $\text{reversed} \times 10 + \text{digit}$

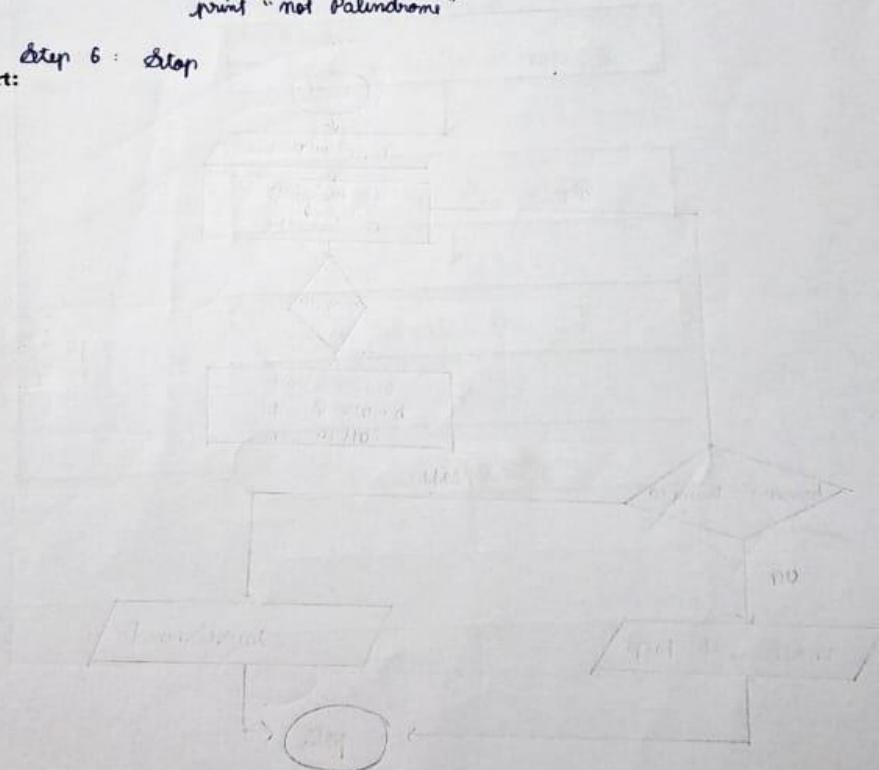
\* update  $n = n / 10$

Step 4: If original = reversed  
print "Palindrome"

Step 5: else:  
print "not Palindrome"

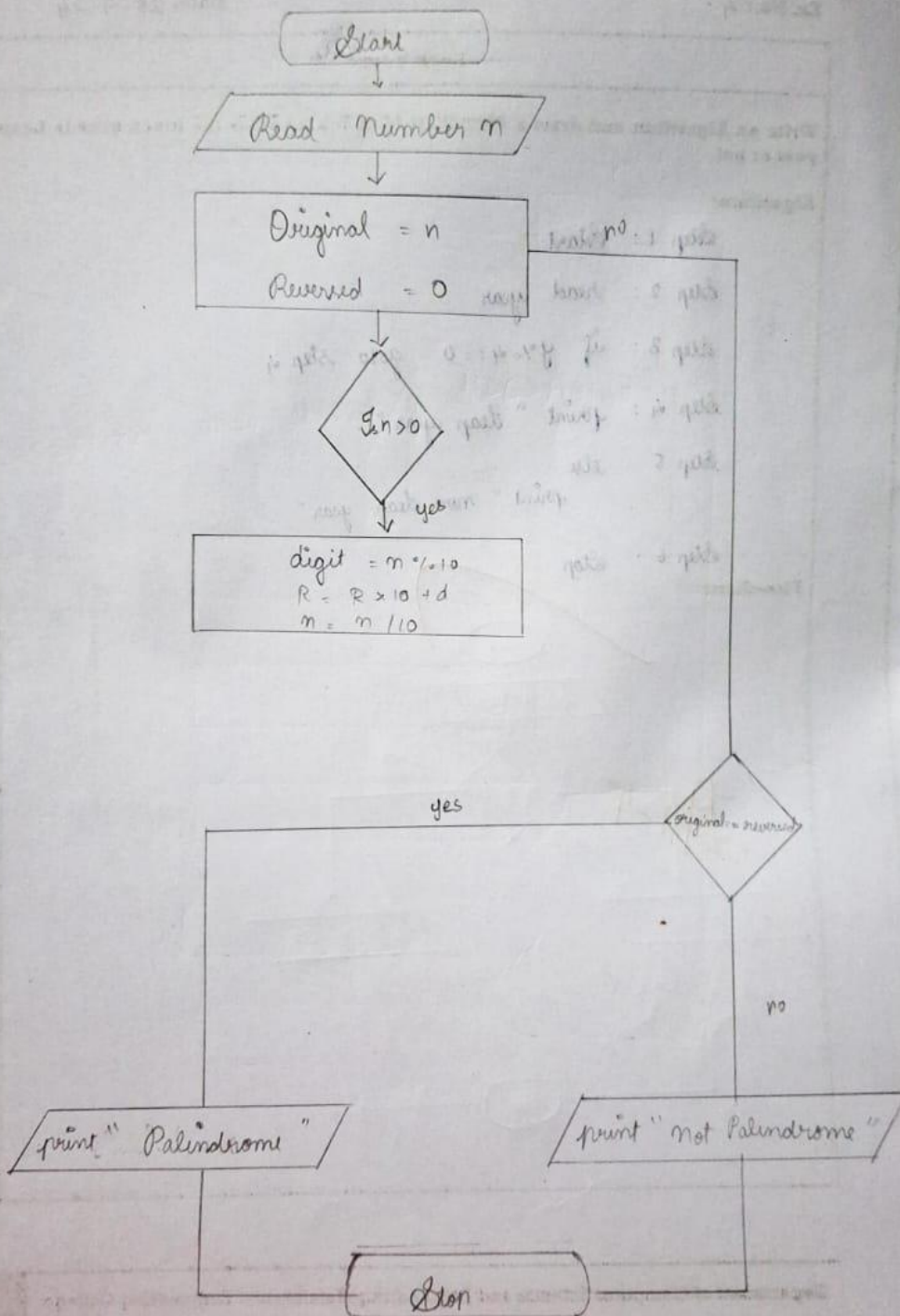
Step 6: Stop

Flowchart:



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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: Input the number (n)

Step 3: Initialize sum = 0

Step 4: Repeat the following steps while n is greater than 0  $n > 0$

- Extract the last digit of n:

- $digit = n \% 10$

- Add the digit to sum

- $sum = sum + digit$

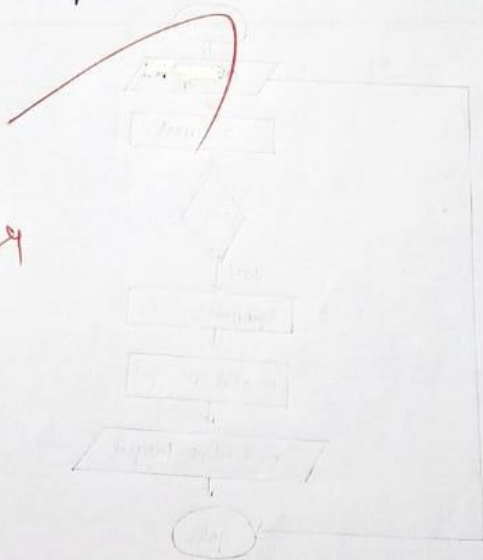
- Remove the last digit from n

- $n = n // 10$

Step 5 - O/P the sum

Flowchart: Step 6 - Stop

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