

Week 1-0

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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 length
- Step 3: Area = length \times length
- Step 4: Perimeter = 4 \times length
- Step 5: Print "area , perimeter"
- Step 6: Stop.

Flowchart:

```
graph TD; Start([Start]) --> ReadLength[/Read length/]; ReadLength --> AreaCalc[Area = length x length]; AreaCalc --> PerimeterCalc[Perimeter = 4 x length]; PerimeterCalc --> Print[/Print "area , perimeter"/]; Print --> Stop([Stop]);
```

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Ex. No.: 5

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

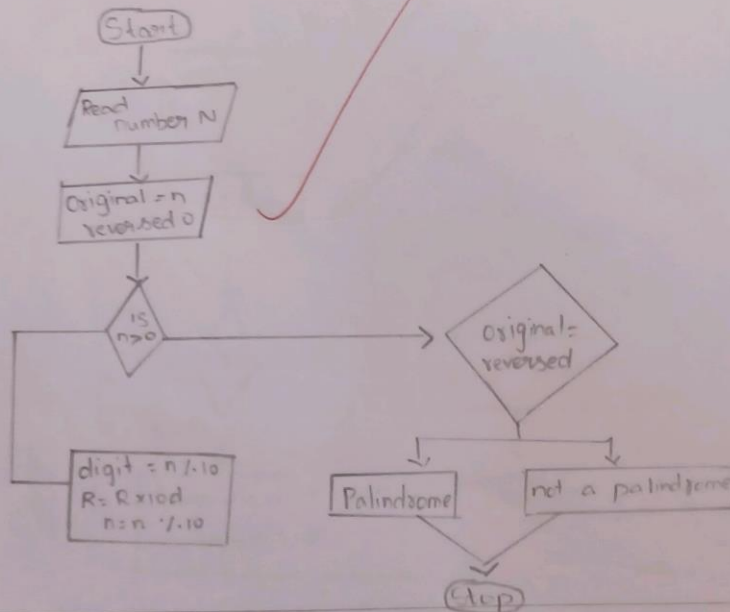
Step 3: Initialize
Set original = n and reversed = 0

Step 4: while $n > 0$
 ·) Set $digit = n \text{ mod } 10$
 ·) update $reversed = reversed \times 10 + digit$
 ·) update $n = n / 10$

Step 5: if original = reversed
 ·) Print "Palindrome"

Step 6: Else:
 ·) Print "not Palindrome".

Step 7: Stop.



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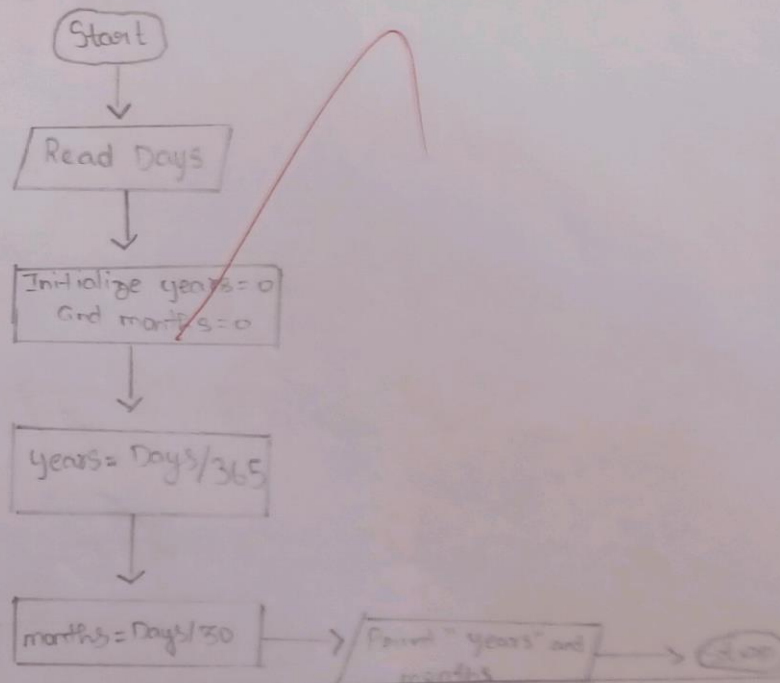
Ex. No.: 2

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: Input Read days
Step 3: Initialize $\text{years} = 0$ and $\text{months} = 0$
Step 4: $\text{year} = \text{Days} / 365$
Step 5: $\text{months} = \text{Days} / 30$
Step 6: Print "years" and "months"
Step 7: Stop.

Flowchart:

Ex. No.: 3

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Prime Number

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

Algorithm:

Step 1: Start

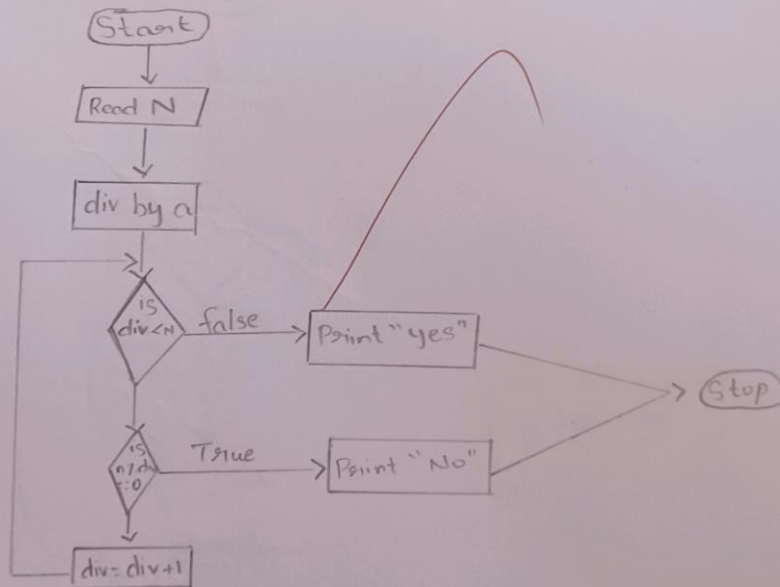
Step 2: Read n

Step 3: Set t=1

Step 4: If $n == 1$ then

Print "n is not a Prime Number"

Go to Step 8

Step 5: For $i = 2$ to $n-1$ Step 6: If $n \% i == 0$ thenSet $f=1$ + break else go to Step 5Step 7: If $f == 1$ thenFlowchart: Print "n is not a Prime Number"

Ex. No.: 3

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Prime Number

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

Algorithm:

Step 1: Start

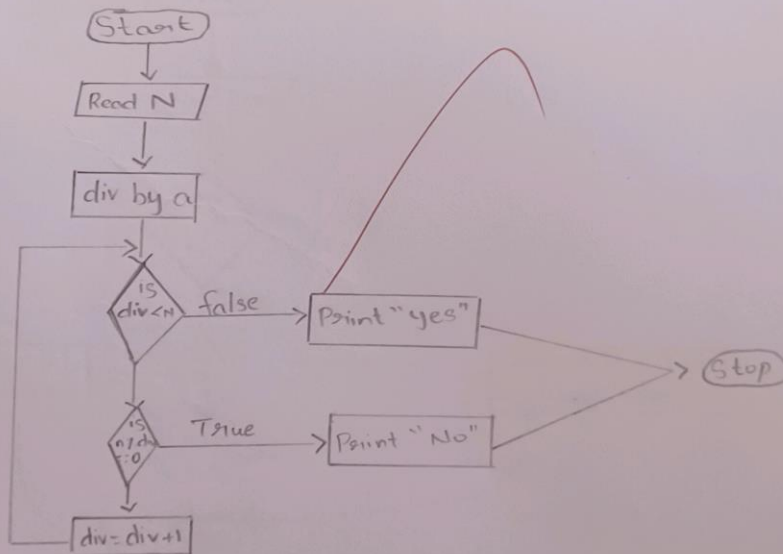
Step 2: Read n

Step 3: Set t=1

Step 4: If $n == 1$ then

Print "n is not a Prime Number"

Go to Step 8

Step 5: For $i = 2$ to $n-1$ Step 6: If $n \% i == 0$ thenSet $f=1$ + break else go to Step 5Step 7: If $f == 1$ thenFlowchart: Print "n is not a Prime Number"

Ex. No.: 6

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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 , from the user
Step 3: Initialize Sum is equal to zero
Step 4: check $n > 0$ true go to Step 5 else go to Step 6
Step 5: $\text{Sum} = \text{Sum} + (n / 10)$
Step 6: $n = n / 10$, go to Step 4
Step 7: Print "Sum"
Step 8: Stop

Flowchart: