

Ex. No.: I

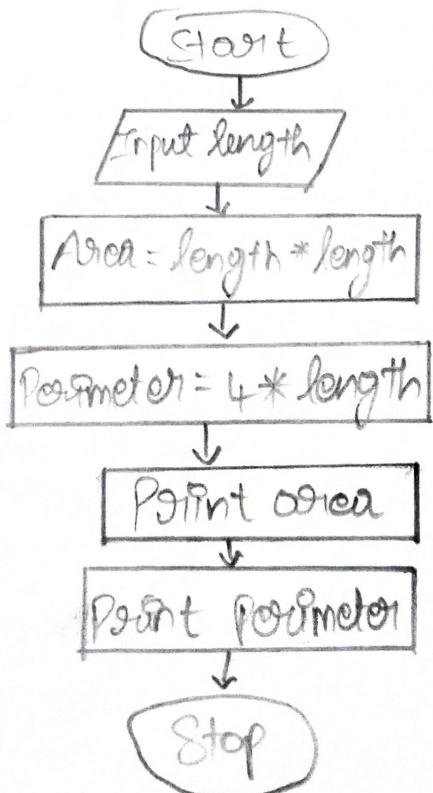
Date: 3/10/2024

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 length
- Step 3: calculate
 $\text{area} = \text{length} * \text{length}$
- Step 4: calculate
 $\text{Perimeter} = 4 * \text{length}$
- Step 5: Point "area, Perimeter"
- Step 6: Stop

Flowchart:

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Ex. No.: II

Date: 3/10/2024

Days to Year Conversion

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

Algorithm:

Step1: Start

Step2: Get days

Step3: calculate the number of years using the formula $\text{Year} = \text{days} / 365$

Step4: calculate the remaining days after converting to years : $\text{remaining days} \% 365$

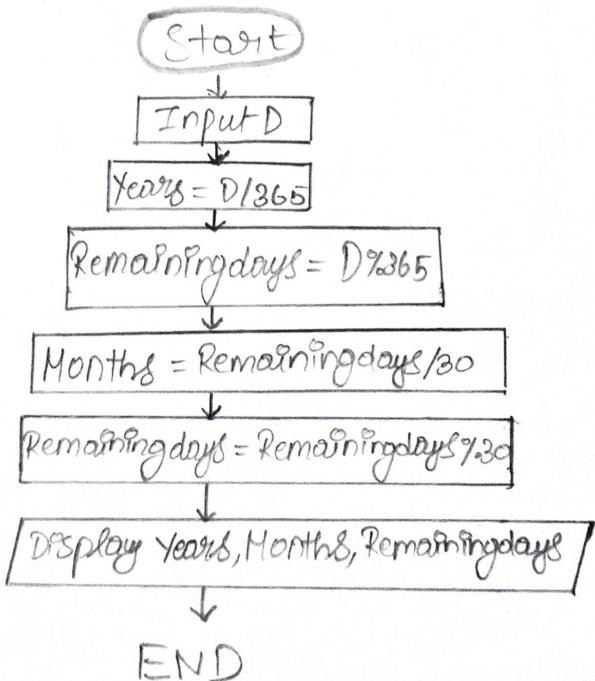
Step5: calculate the number of months using the formula $\text{months} = \frac{\text{remaining days}}{30}$

Step6: calculate the remaining days using the formula $\text{remaining days} \% 30$

Step7: display the year, month, remaining days

Step8: End

Flowchart:



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Ex. No.: III

Date: 3/10/2024

Prime Number

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

Algorithm: Step1: Start

Step2: Input the number to be checked (n)

Step3: Set a variable, $i = 2$

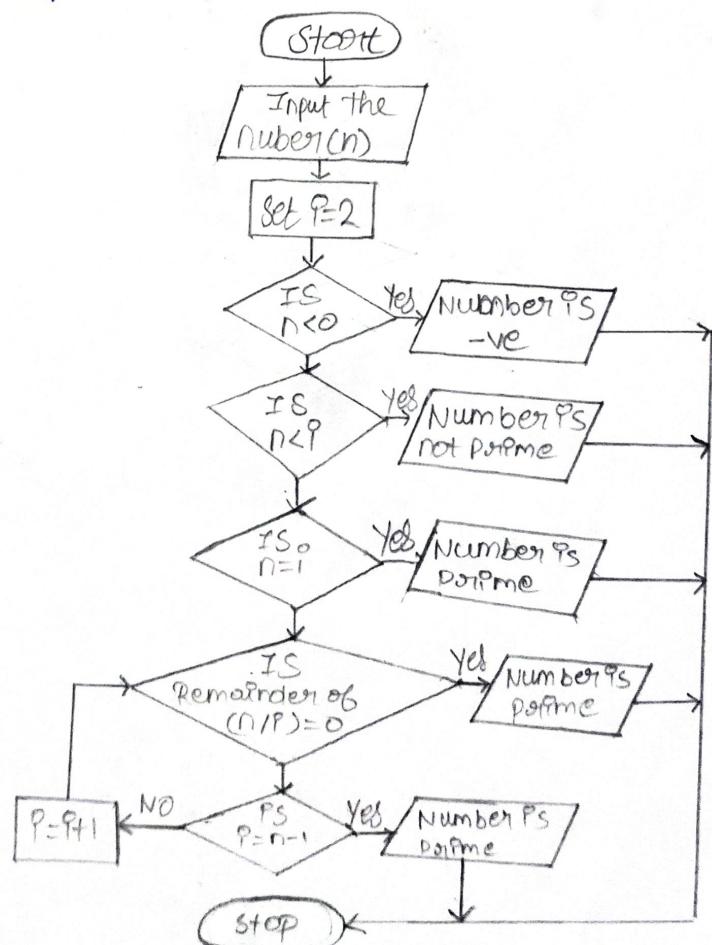
Step4: Check whether $n < 0$ or not, if 'yes', then display 'Number is negative' go to step8, else go to step6.

Step5: Check whether $n < i$ or not, if 'yes', then display 'Number is not prime', go to step8, else go to step6.

Step6: Check whether $n = i$ or not, if 'yes', then display 'Number is prime', go to step8, else go to step7.

Step7: Check the remainder of (n/i) , if it is '0', then display 'Number is not prime' and go to step8, else do $(i=i+1)$ and repeat step7 until $(i=n-1)$ and finally display 'Number is prime'.

Flowchart: Step8: End



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Ex. No.: IV

Date: 8/10/2024

Leap Year

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

Algorithm:

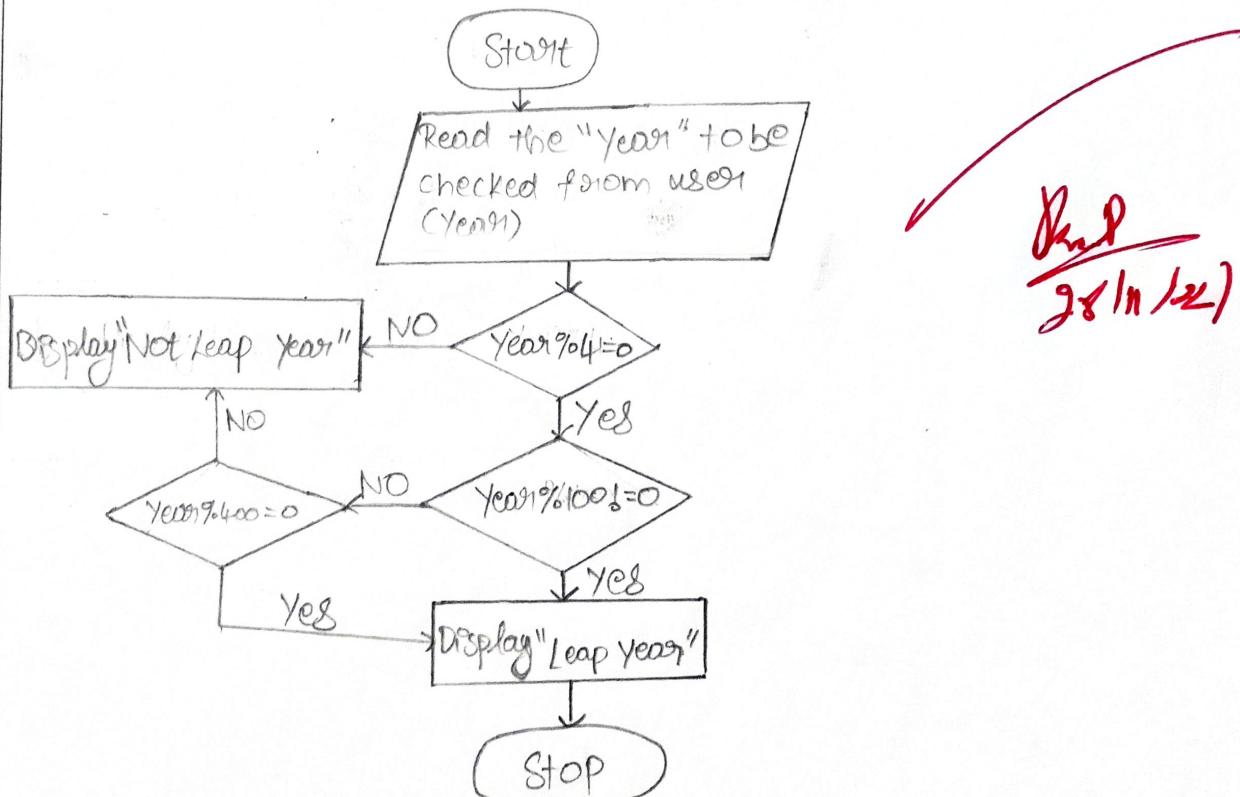
Step 1 : Start

Step 2 : Input the year to be checked (year)

Step 3 : If ($\text{Year} \% 4 = 0$ AND $\text{Year} \% 100 \neq 0$) OR $\text{Year} \% 400 = 0$,
then Display "Leap year"

Step 4 : Else Display "Not Leap Year"

Step 5 : Stop

Flowchart:

Ex. No.: V

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:

Step1: Start

Step2 : Read the input number from the user

Step3 : Declare and Initialize the variable reverse and
assign input to a temp variable temnum = num

Step4: Start the while loop until num != 0 become false

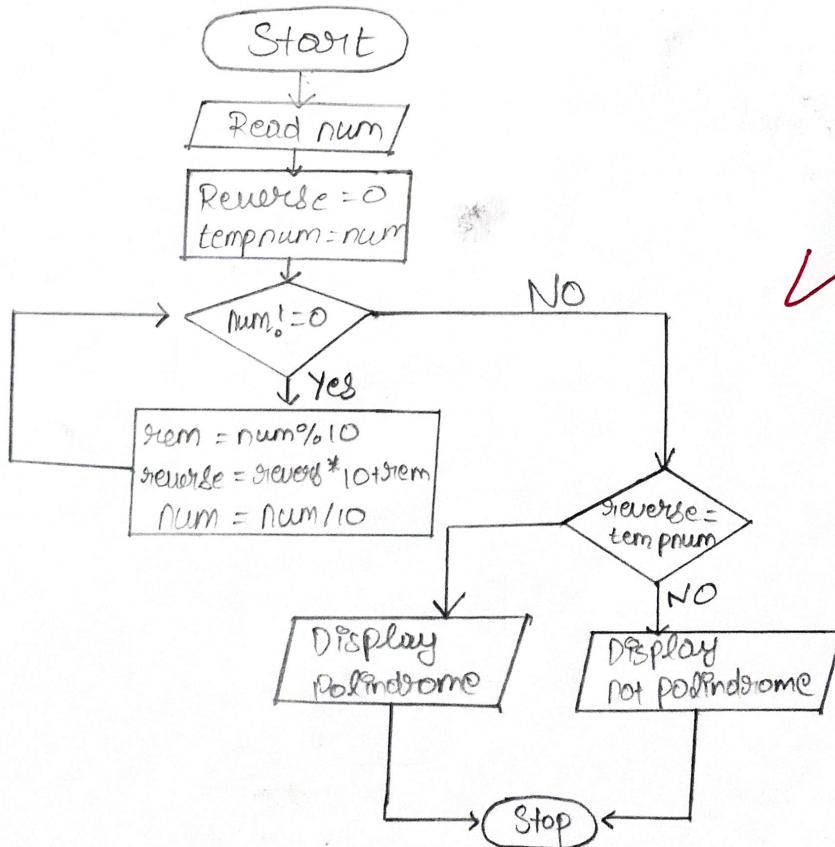
- rem = num%10
- reverse = reverse * 10 + rem
- num = num/10

Step5: Check if reverse == temnum

Step6: If it's true then display the number is a palindrome

Step7: If not display the number is not a palindrome

Step8: Stop

Flowchart:

Ex. No.: VI

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 the number

Step 3: construct a variable to hold the total and initialize it to 0.

Step 4: Repeat steps 2 and 5 until the result is not 0.

Step 5: Divide the number by 10 to obtain the rightmost digit using the modulus "%" operator, then add it to the total.

Step 6: Use the '/' operator to divide the integer by 10 to eliminate the last digit on the right.

Step 7: Display the Total.

Step 8: END.

Flowchart:

