Ex. No.: 1   Date: 18.10.24

Calculate Area and Perimeter

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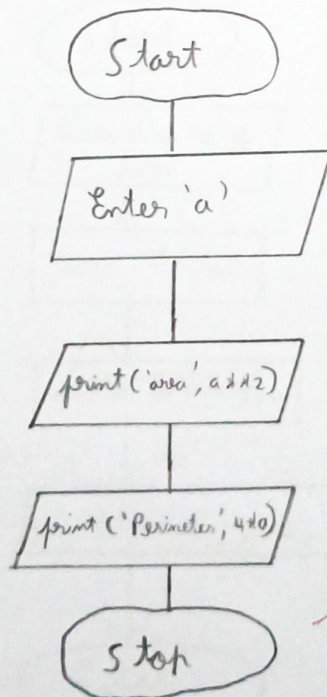
Algorithm:

Step - 1: Start the program

Step - 2: Get the Value of 'a' from the user

Step - 3: Print the outcome of 4*a as the perimeter of the square.

Step - 4: Print the outcome of a**2 as the Area of the square

Step - 5: Stop the program

Flowchart:

Start

Enter 'a'

print ('area', a**2)

print ('Perimeter', 4*a)

Stop

P.pr

Ex. No.: 2   **Date:** 18.10.24

Days to Year Conversion

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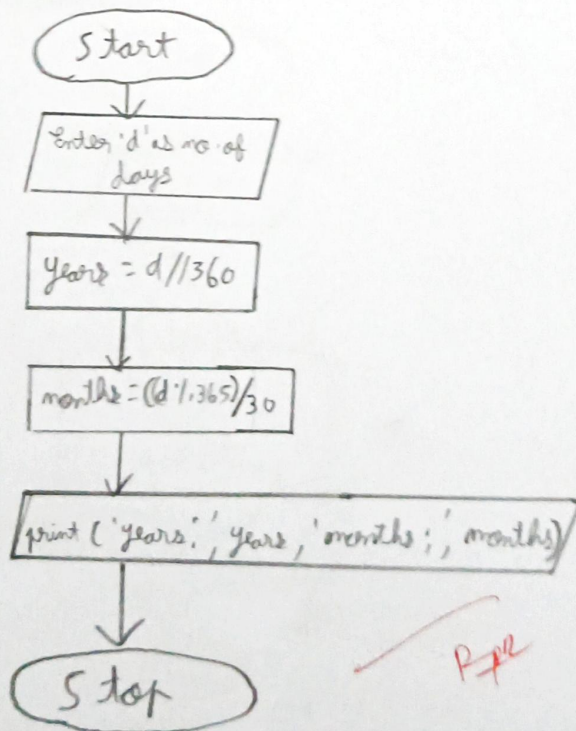
Algorithm:

Step-1: Start the program

Step-2: Get input 'd' from the user as no. of days.

Step-3: Print d//365 for no. of years

Step-4: Print ((d % 365)/30) for no. of months & days

Step-5: Stop the program

Flowchart:

```
        ( Start )
            |
            v
   +--------------------+
   | Enter 'd' as no. of|
   | days               |
   +--------------------+
            |
            v
   +--------------------+
   | years = d//360     |
   +--------------------+
            |
            v
   +--------------------+
   | months = (d%365)/30|
   +--------------------+
            |
            v
 / print ('years:', years, 'months:', months) /
            |
            v
        ( Stop )
```

Ex. No.: 3   Date: 18·10·24

Prime Number

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

Algorithm:

Step-1: Start the program

Step-2: Get input "n" from the user as a number

Step-3: Check if $n=0$ or $n=1$

Step-4: If Step-3 is true, print n is not a prime number

Step-5: Otherwise check if $n>1$

Step-6: If Step-5 is true, initialize a loop with variable i is range 2 to n

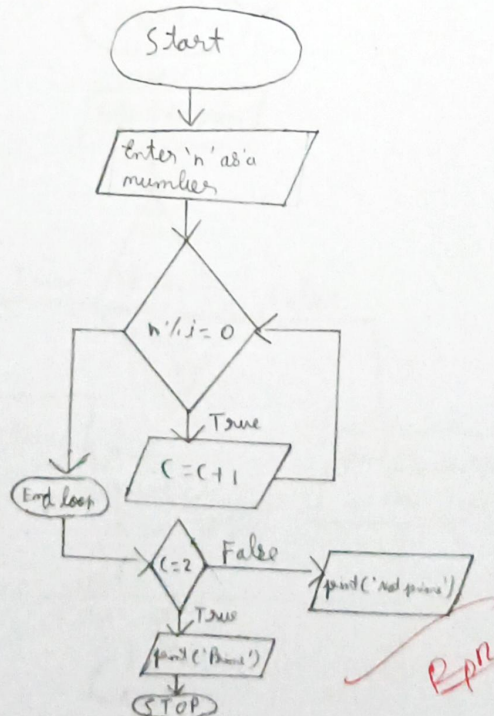Step-7: In the loop, check if $n\%i == 0$:

Step-8: If Step-7 is true, print n is not a prime number

Step-9: Otherwise, print n is a prime number

Step-10: Stop the program

Flowchart:

Ex. No.: 4   Date: 18·10·24

Leap Year

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

Algorithm:

Step-1: Start the program

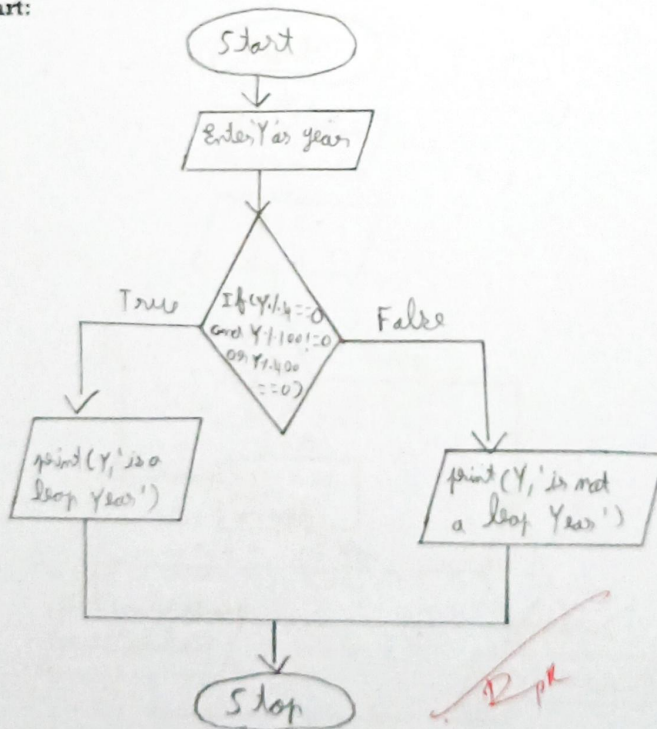Step-2: Get input 'Y' from the user as Year

Step-3: Check if Y%4==0 and Y%100!=0 or Y%400==0

Step-4: If Step-3 is true, print Y is a leap year

Step-5: Otherwise, print Y is not a leap year

Step-6: Stop the program

Flowchart:

Ex. No.: 5   Date: 18·10·24

Palindrome Number

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

Algorithm:

Step-1: Start the program

Step-2: Get a number 'n' from the user

Step-3: Declare a Variable 'rev' and initialize it

Step-4: Assign 'n' to a temporary Variable such as d = n
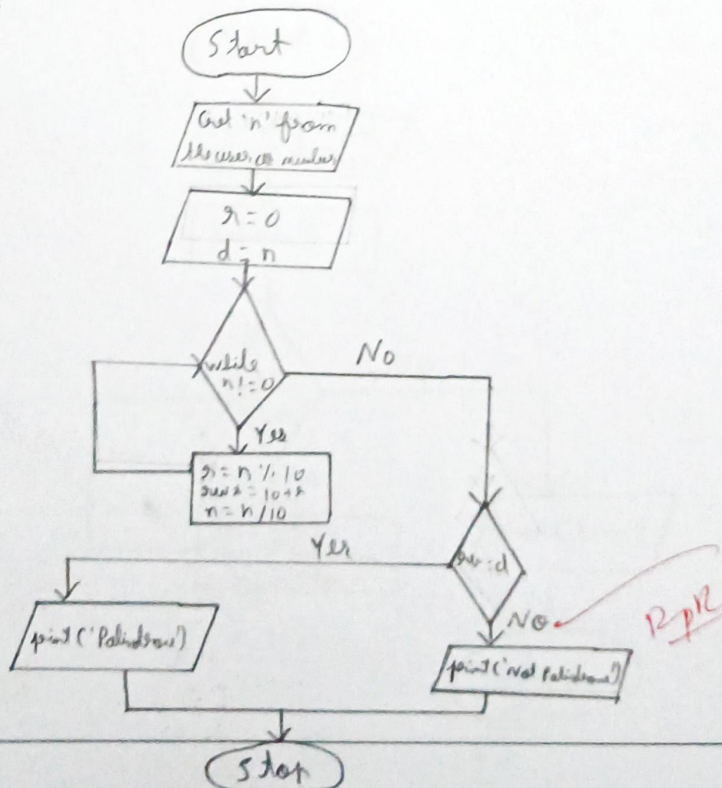
Step-5: Start the while loop with condition n != 0

Step-6: Inside the loop, $r = n \% 10$
$$rev = 10 + r$$
$$n = n/10$$

Step-7: check if rev = d

Step-8: If true then n is a palindrome

Step-9: Otherwise, it is not a palindrome

Flowchart:

Start

Get 'n' from the user as number

$r = 0$
$d = n$

while n != 0

No

Yes

$r = n \% 10$
$rev = 10 + r$
$n = n/10$

rev = d

Yes

No

print ('Palindrome')

print ('Not Palindrome')

Stop

Ex. No.: **6**   Date: 18 10·24

Sum of Digits

Write an Algorithm and draw a Flowchart to calculate the sum of digits in the given number.

Algorithm:

Step-1: Get a number 'n' from the users. Also inialize a Variable sum

Step-2: ~~Init~~ Initialize the while loop with the condition n > 0

Step-3: Inside the loop, $m = n \% 10$

$$sum = sum + m$$

$$n = n / 10$$

Step-4: Print sum to find the sum of digits

Flowchart:

Start

Get n from the user as a number

sum = 0

while n > 0:

NO

Yes

m = n % 10
sum = sum + m
n = n / 10

print (sum)

Stop