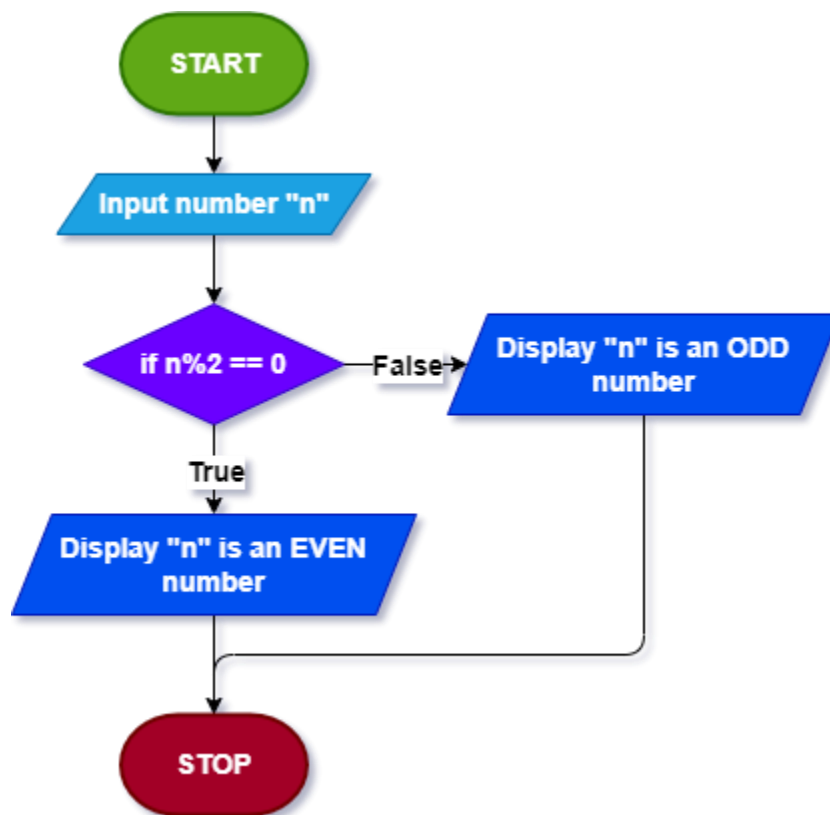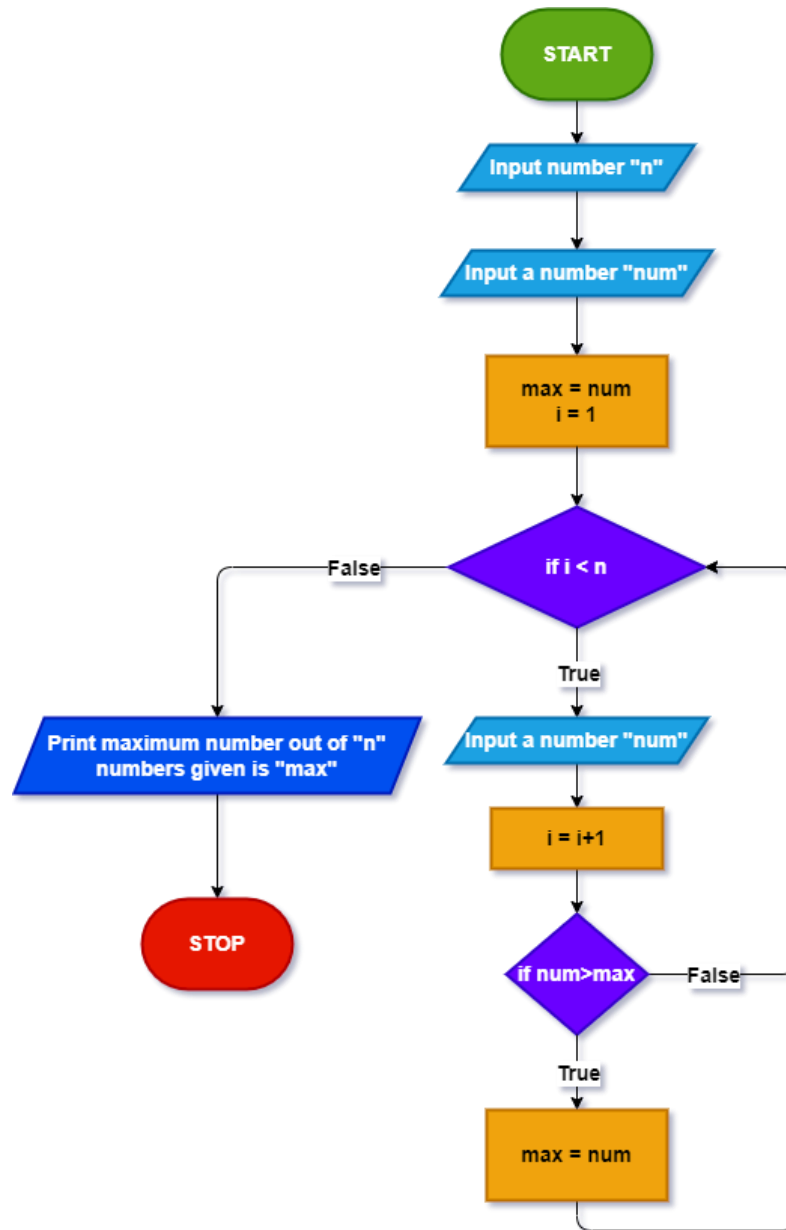# Practical - Flowcharts

Draw flowcharts for the given problems -

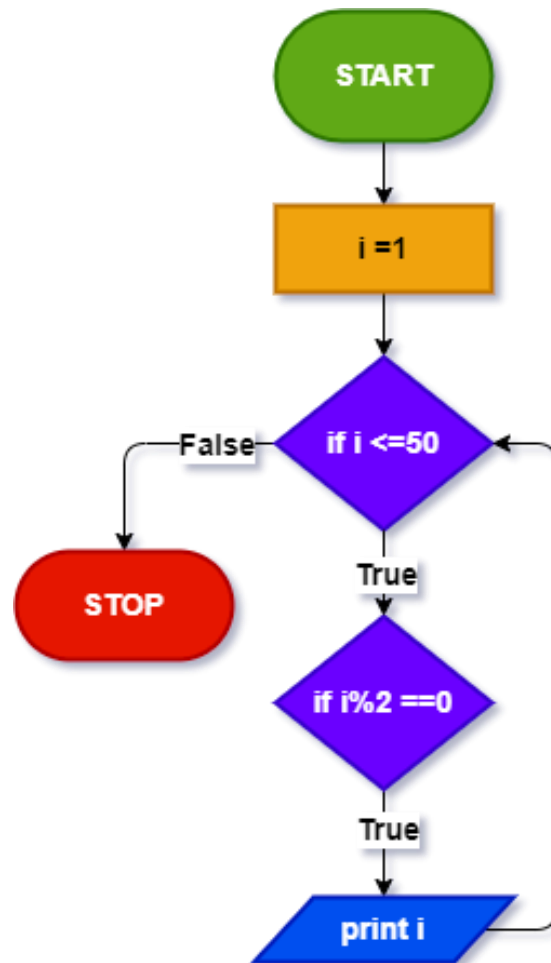1. Check whether a given number is even or odd.

2. Finding maximum of 'n' numbers where n is taken from the user.

START

Input number "n"

Input a number "num"

max = num
i = 1

if i < n

False → Print maximum number out of "n" numbers given is "max" → STOP

True → Input a number "num"

i = i+1

if num>max

False

True → max = num

3. Finding even numbers between 1 to 50.

START

i = 1

if i <=50

False

STOP

True

if i%2 ==0

True

print i

4. Find the sum of series - 1+2+3+...+n where n is taken from the user.

START

input number "n"

sum = 0
i =1

Display sum ←False— if i <= n

True

STOP

sum += i
i++
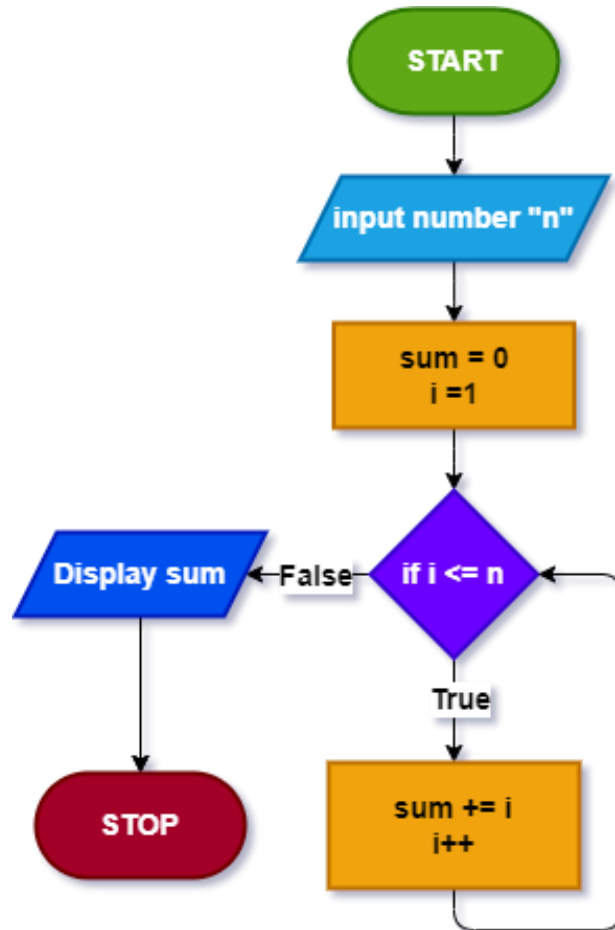
5. Generate first n Fibonacci terms where n is taken from the user.

```
START

input number "n"

i = 1
a = 1
b = 1
temp = 0

if i <= n
  False → STOP
  True ↓

Display "a"

temp += b
b = a
a = temp
```
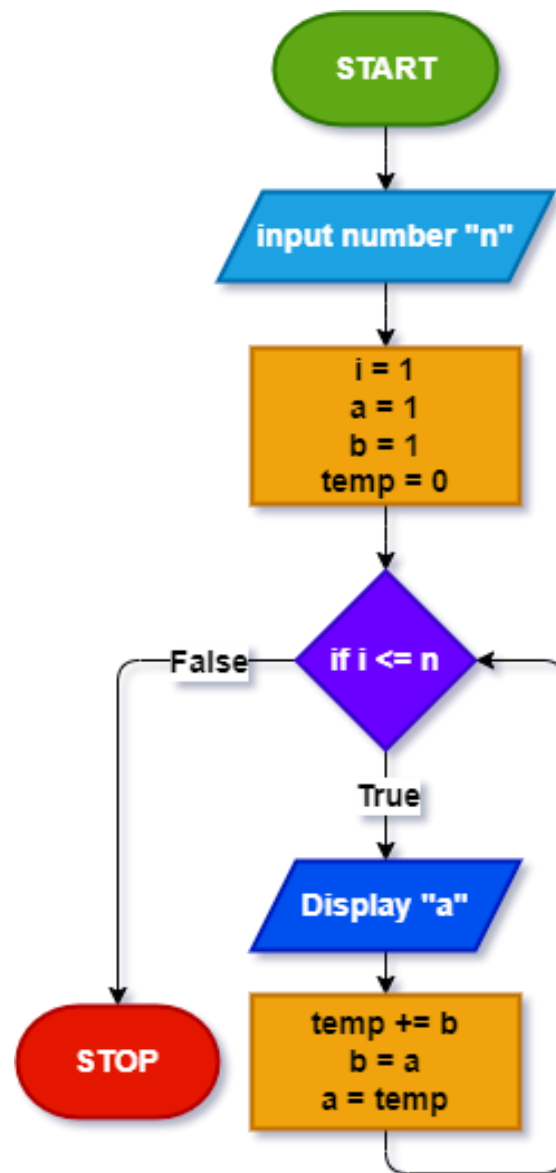
6. Find roots of a quadratic equation $ax^2 + bx + c = 0$ where a, b and c are taken from the user.

START

input "a" coefficient of x^2

if "a" is 0 — True → Display coefficient of x^2 can't be 0

False

input "b" coefficient of x
input "c" constant term

Discriminant ,
D = b*b - 4*a*c

if D < 0 — True → Display No real roots exist

False

if D = 0 — True → root1 = root2 = (-1*b) /(2*a)

False

root1 = ((-1*b) + D$^{1/2}$) / (2*a)
root2 = ((-1*b) - D$^{1/2}$) / (2*a)

Display Roots are:
"root1"
"root2"

STOP
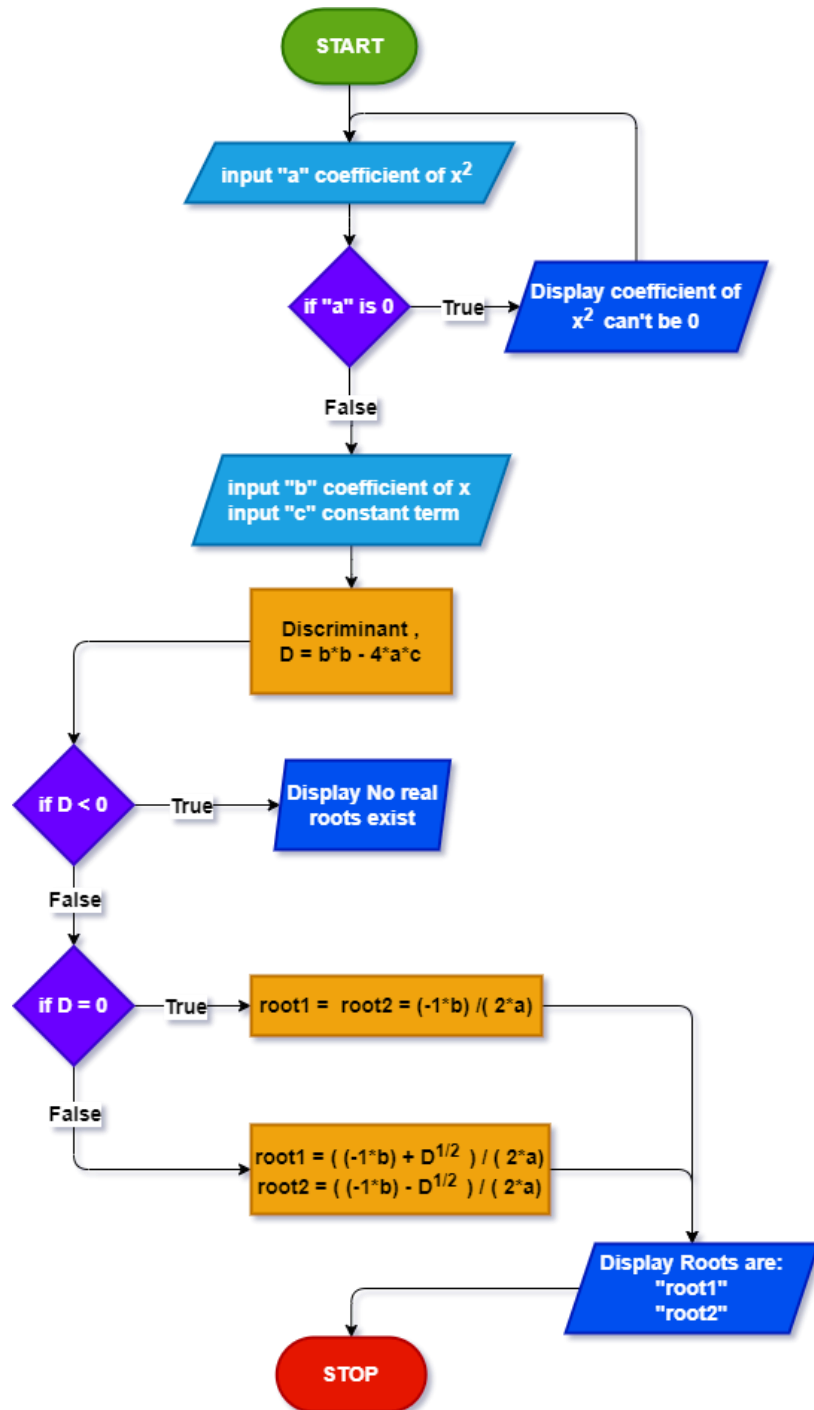
7. Find all divisors of a number n where n is taken from the user

```
START
  |
input number "n"
  |
i = 1
  |
if i <= n/2
  False --> Display "n" --> STOP
  True
  |
if n%i == 0
  False --> i = i + 1
  True
  |
Display "i"
  |
i = i + 1
  |
(loop back to if i <= n/2)
```