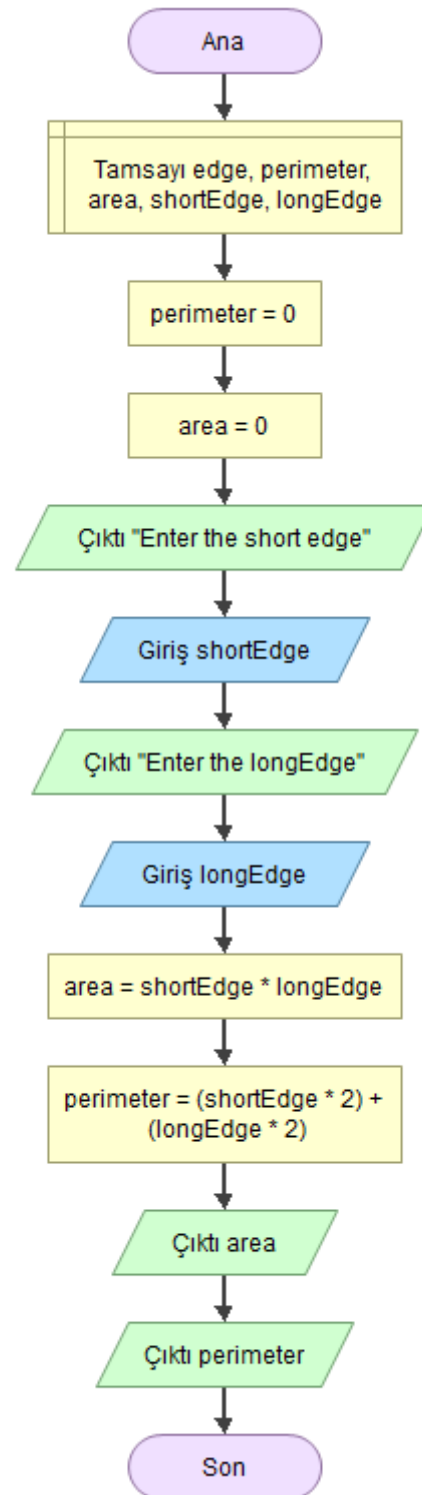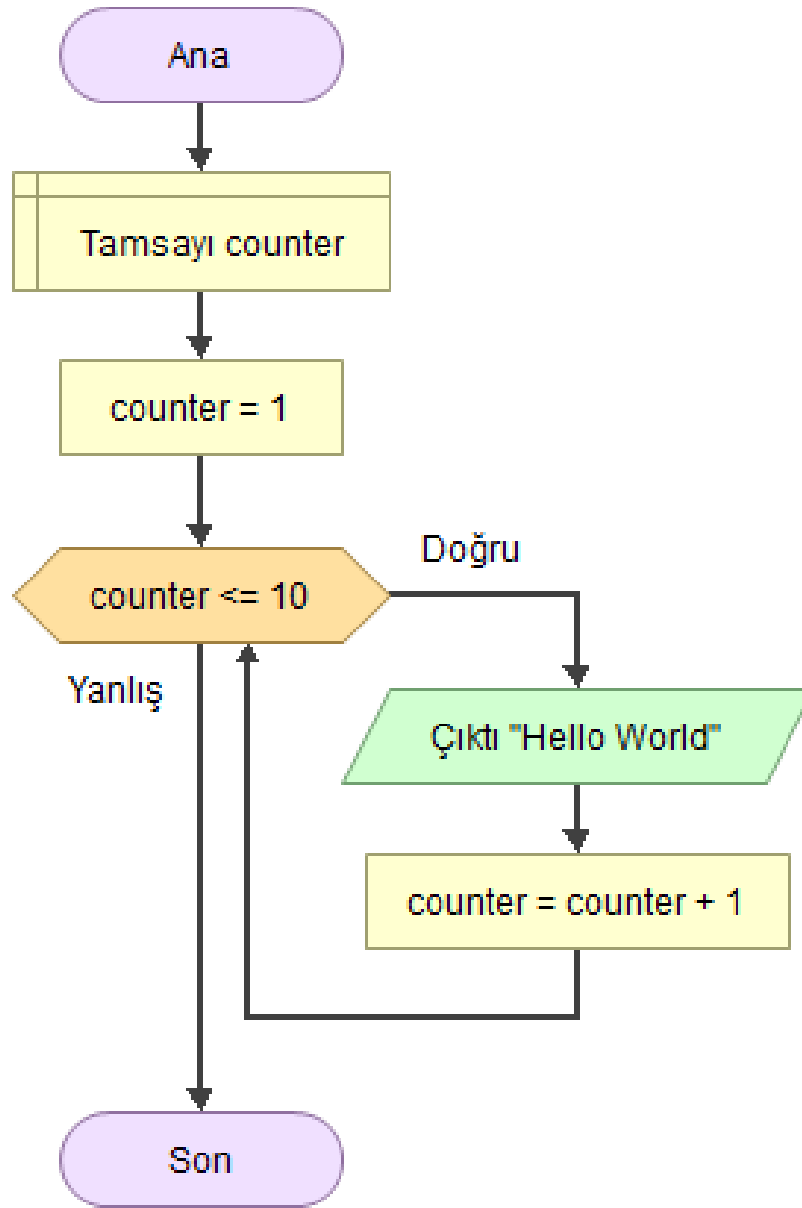1- Write an algorithm and draw a flowchart that will read the two sides of a rectangle and calculate its area and perimeter.

```
        ╭─────────────╮
        │     Ana     │
        ╰─────────────╯
               │
        ┌─────────────────────┐
        │ Tamsayı edge, perimeter, │
        │ area, shortEdge, longEdge │
        └─────────────────────┘
               │
        ┌─────────────┐
        │ perimeter = 0 │
        └─────────────┘
               │
        ┌─────────────┐
        │   area = 0   │
        └─────────────┘
               │
        ╱ Çıktı "Enter the short edge" ╱
               │
        ╱ Giriş shortEdge ╱
               │
        ╱ Çıktı "Enter the longEdge" ╱
               │
        ╱ Giriş longEdge ╱
               │
        ┌─────────────────────┐
        │ area = shortEdge * longEdge │
        └─────────────────────┘
               │
        ┌─────────────────────┐
        │ perimeter = (shortEdge * 2) + │
        │      (longEdge * 2)      │
        └─────────────────────┘
               │
        ╱ Çıktı area ╱
               │
        ╱ Çıktı perimeter ╱
               │
        ╭─────────────╮
        │     Son     │
        ╰─────────────╯
```

3- Print Hello World 10 times

```
Ana
  │
  ▼
Tamsayı counter
  │
  ▼
counter = 1
  │
  ▼
counter <= 10 ──Doğru──▶ Çıktı "Hello World"
  │                              │
Yanlış                           ▼
  │                       counter = counter + 1
  ▼
Son
```

4- Draw a flowchart to find the sum of the first 50 natural numbers.

```mermaid
flowchart TD
    A([Ana]) --> B[Tamsayı sum, counter]
    B --> C[sum = 0]
    C --> D[counter = 1]
    D --> E{counter <= 50}
    E -->|Doğru| F[sum = sum + counter]
    F --> G[counter = counter + 1]
    G --> E
    E -->|Yanlış| H[/Çıktı sum/]
    H --> I([Son])
```
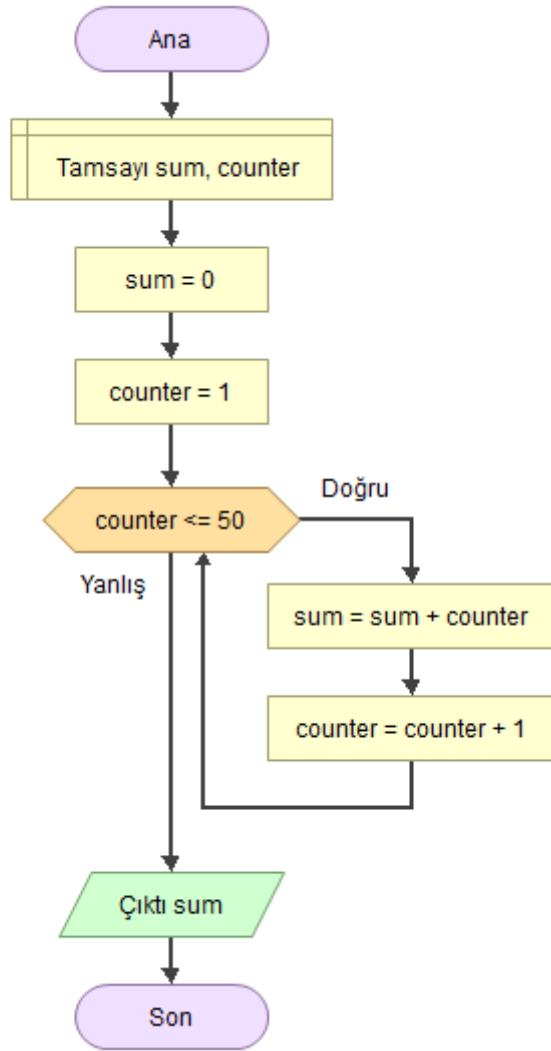
5- Write an algorithm and draw a flowchart to calculate 2^4.

```
Ana
  │
  ▼
┌─────────────────┐
│ Tamsayı result  │
└─────────────────┘
  │
  ▼
┌─────────────────┐
│ result = 2*2*2*2│
└─────────────────┘
  │
  ▼
  ╱Çıktı result╱
  │
  ▼
  Son
```
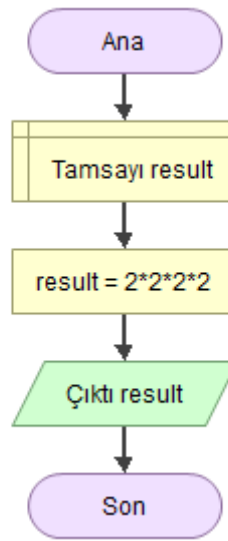
6- Draw a flow chart to find LCM of two numbers.
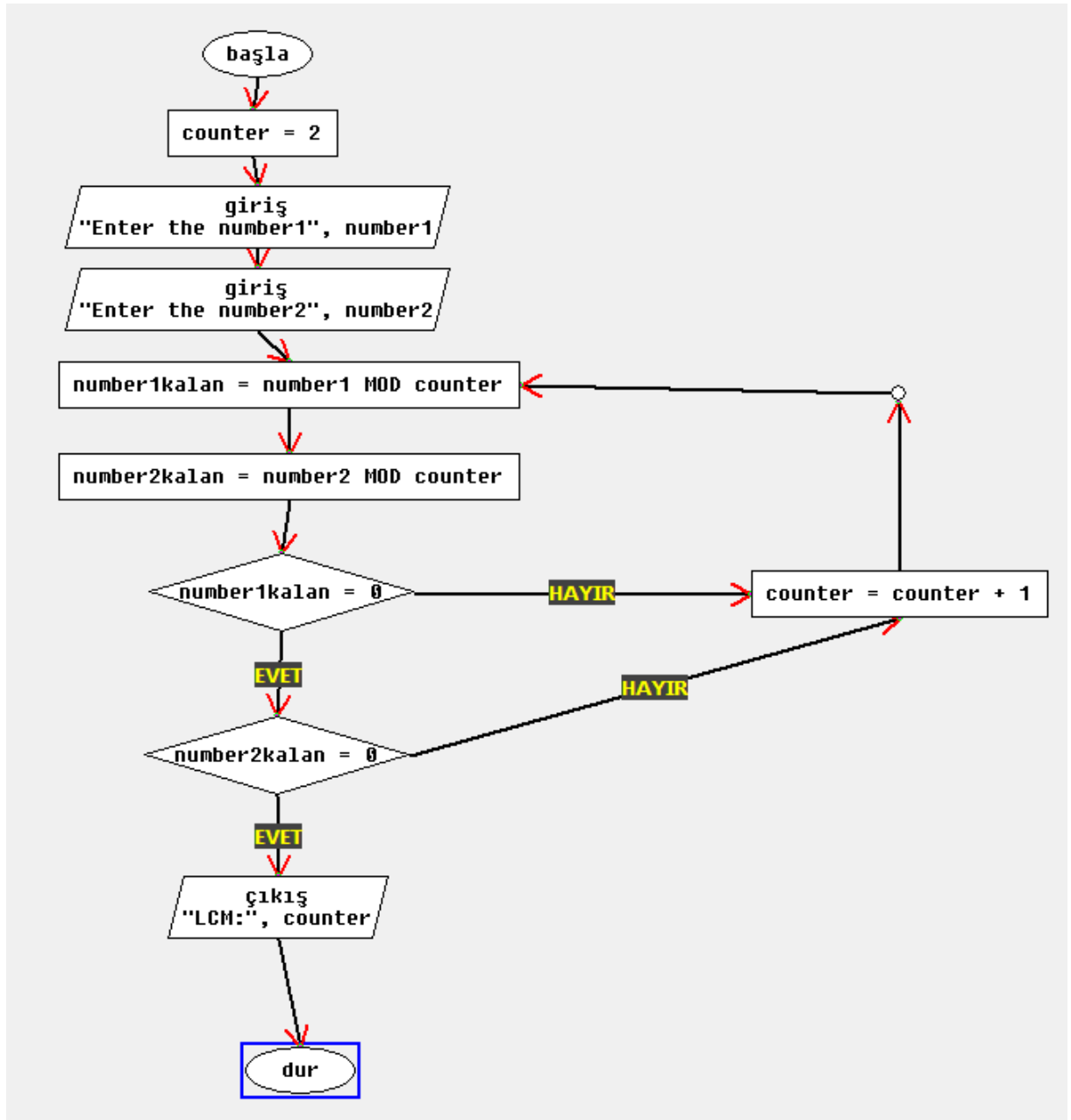
7- Draw a flow chart to print all Prime numbers between 1 to n.
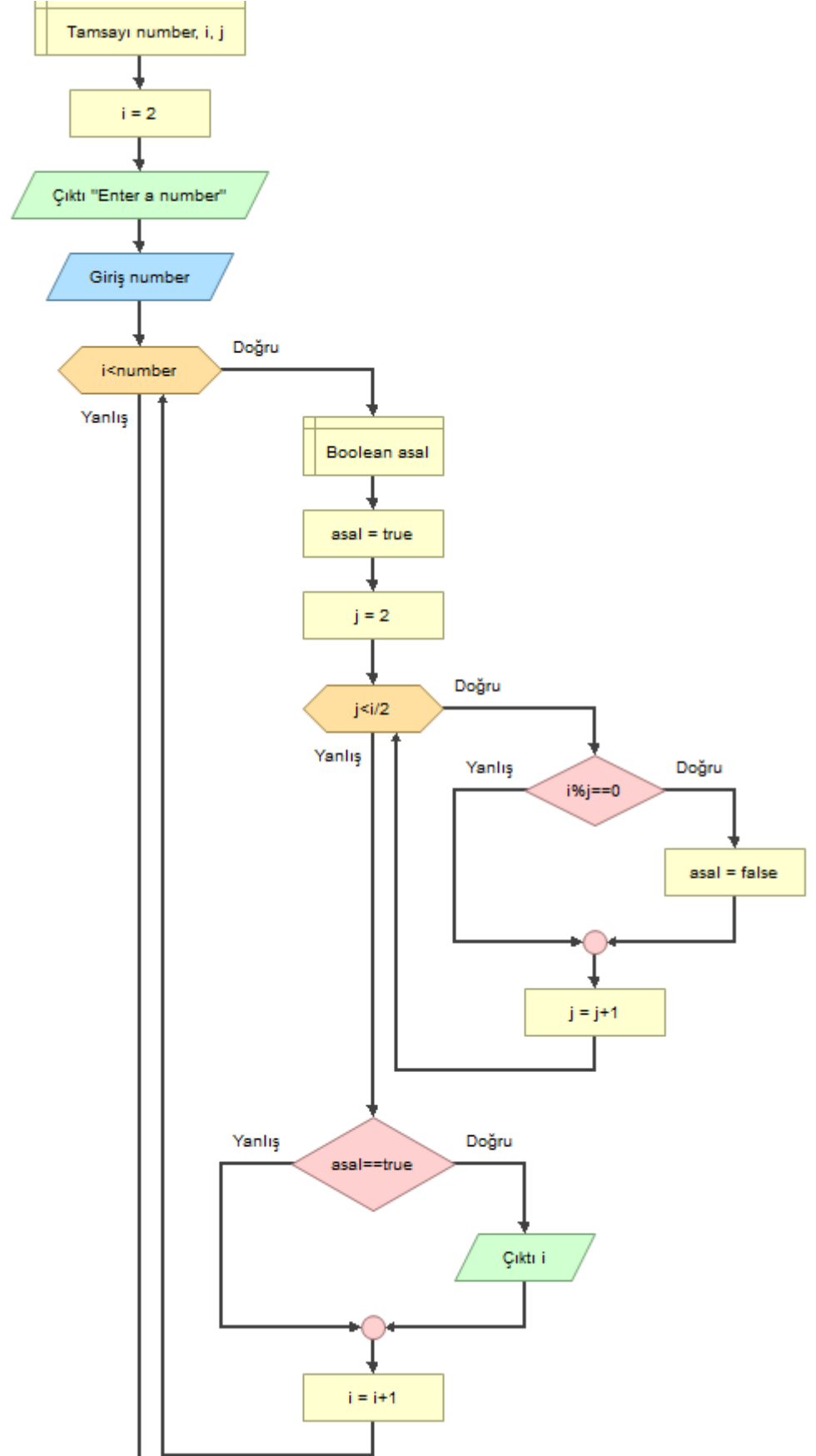
8- Draw a flow chart to find sum of all prime numbers between 1 to n.

```
                    sum = 0

            Çıktı "Enter a number"

               Giriş number

                                Doğru
            i<number ─────────────────┐
                                       │
          Yanlış                       ▼
                                Boolean asal

                                       │
                                       ▼
                                 asal = true

                                       │
                                       ▼
                                    j = 2

                                       │              Doğru
                                       ▼ ─────────────────────┐
                                   j<i/2                       │
                                                               ▼
                 Yanlış                  Yanlış          Doğru
                              ┌──────────── i%j==0 ──────────┐
                              │                               ▼
                              │                          asal = false
                              │                               │
                              └──────────●──────────────────┘
                                         │
                                         ▼
                                      j = j+1

         Yanlış                              Doğru
                  ┌──────────── asal==true ──────────┐
                  │                                    ▼
                  │                             sum = sum + i
                  │                                    │
                  └────────────●─────────────────────┘
                               │
                               ▼
                            i = i+1


               Çıktı sum
```
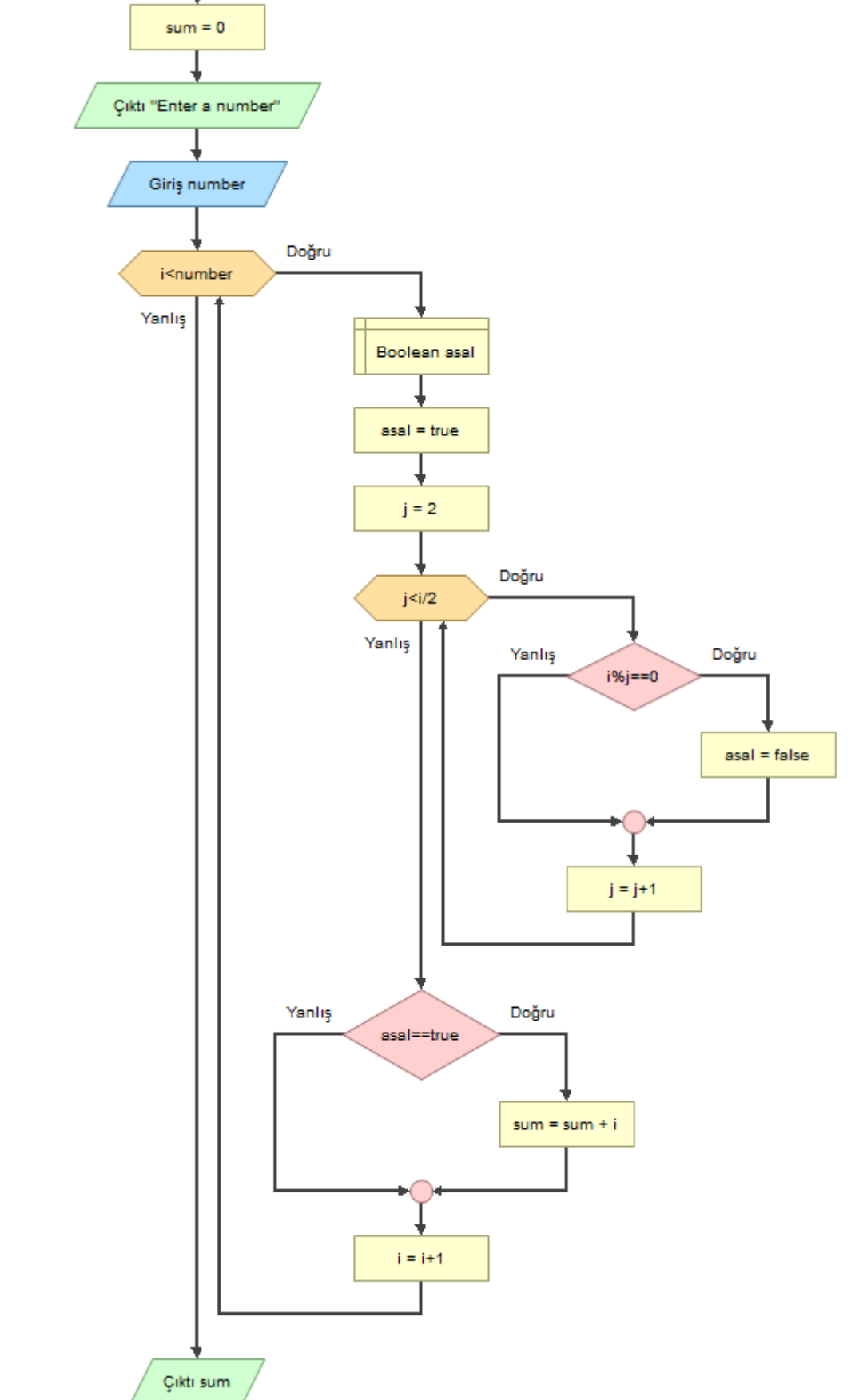
9- Draw a flow chart to check whether a number is Armstrong number or not.

```
                          ┌──────────┐
                          │   Ana    │
                          └──────────┘
                               │
                               ▼
                 ┌─────────────────────────────┐
                 │  Tamsayı toplam, n, a,       │
                 │  basamak                     │
                 └─────────────────────────────┘
                               │
                               ▼
                     ┌───────────────┐
                     │  toplam = 0   │
                     └───────────────┘
                               │
                               ▼
                      ╱───────────────╲
                      │    Giriş n     │
                      ╲───────────────╱
                               │
                               ▼
                     ┌───────────────┐
                     │    a = n       │
                     └───────────────┘
                               │
                               ▼
                                            Doğru
                      ⬡ n>0 ⬡ ──────────────────────┐
                        │                            │
                     Yanlış                          ▼
                        │               ┌─────────────────────┐
                        │               │  basamak = n%10      │
                        │               └─────────────────────┘
                        │                            │
                        │                            ▼
                        │               ┌─────────────────────┐
                        │               │     n = n/10         │
                        │               └─────────────────────┘
                        │                            │
                        │                            ▼
                        │          ┌─────────────────────────────┐
                        │          │  toplam = toplam + (basamak* │
                        │          │  basamak*basamak)            │
                        │          └─────────────────────────────┘
                        │                            │
                        └────────────────────────────┘
                        ▼
        Yanlış      ◇ toplam == a ◇      Doğru
          ┌──────────────┘        └──────────────┐
          ▼                                       ▼
  ╱──────────────────────────╲          ╱──────────────────────────╲
  │ Çıktı "Armstrong sayı      │        │ Çıktı "Armstrong sayıdır"  │
  │ değildir"                  │        ╲──────────────────────────╱
  ╲──────────────────────────╱
          │                                       │
          └──────────────► ◯ ◄────────────────────┘
                           │
                           ▼
                    ┌──────────────┐
                    │     Son      │
                    └──────────────┘
```
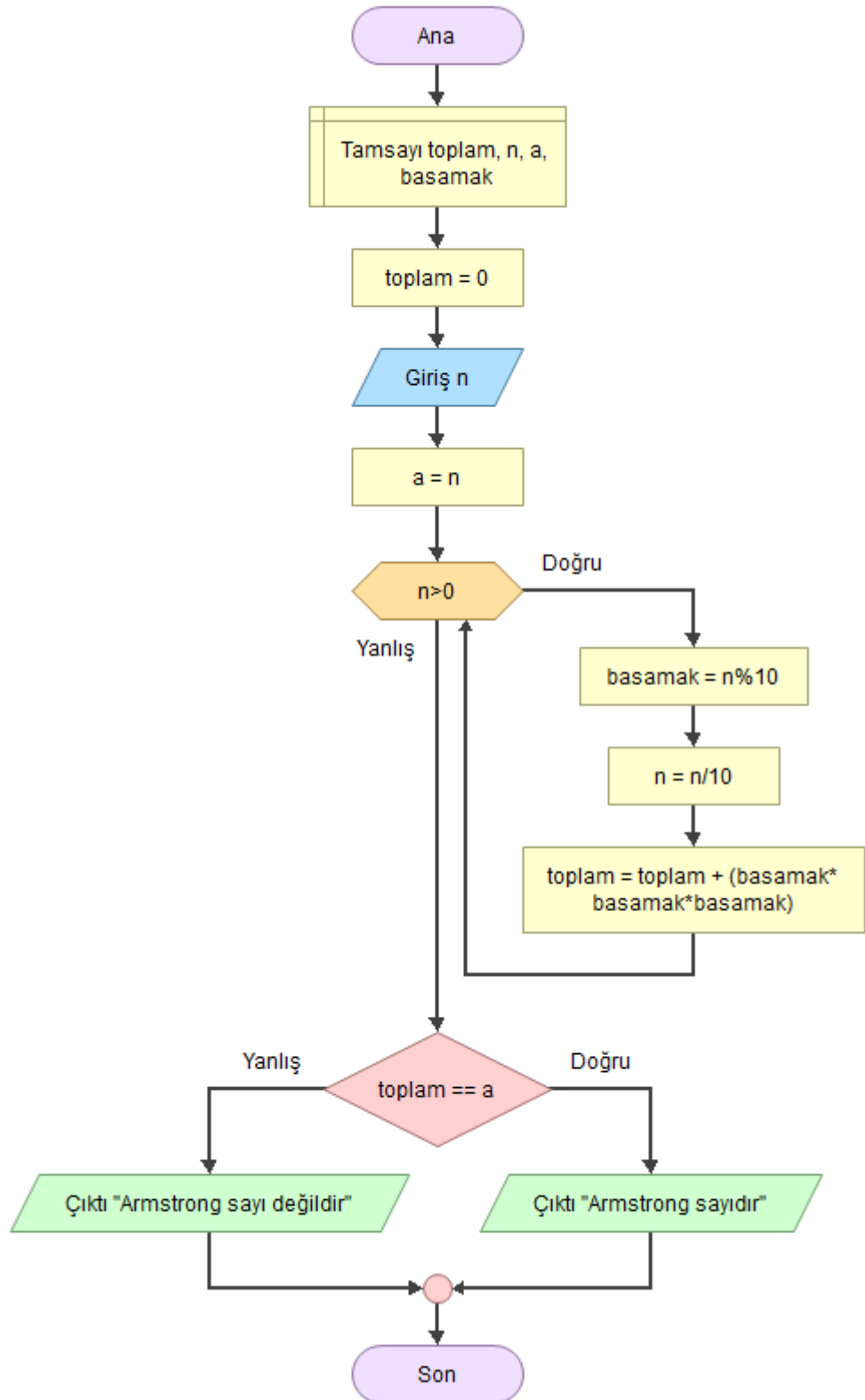
10- Draw a flow chart to print all Armstrong numbers between 1 to n.

Tamsayı sum, a, b, c, d

Reel n, m

Çıktı "Enter a number"

Giriş n

sum = 0

b = n

d = 0

m = n

m>1 — Doğru
Yanlış

m = m/10

d = d+1

n>1 — Doğru
Yanlış

c = n%10

n = n/10

sum = sum+c*d

Yanlış — sum==b — Doğru

Çıktı "Not a armstrong number"

Çıktı "Armstrong number"
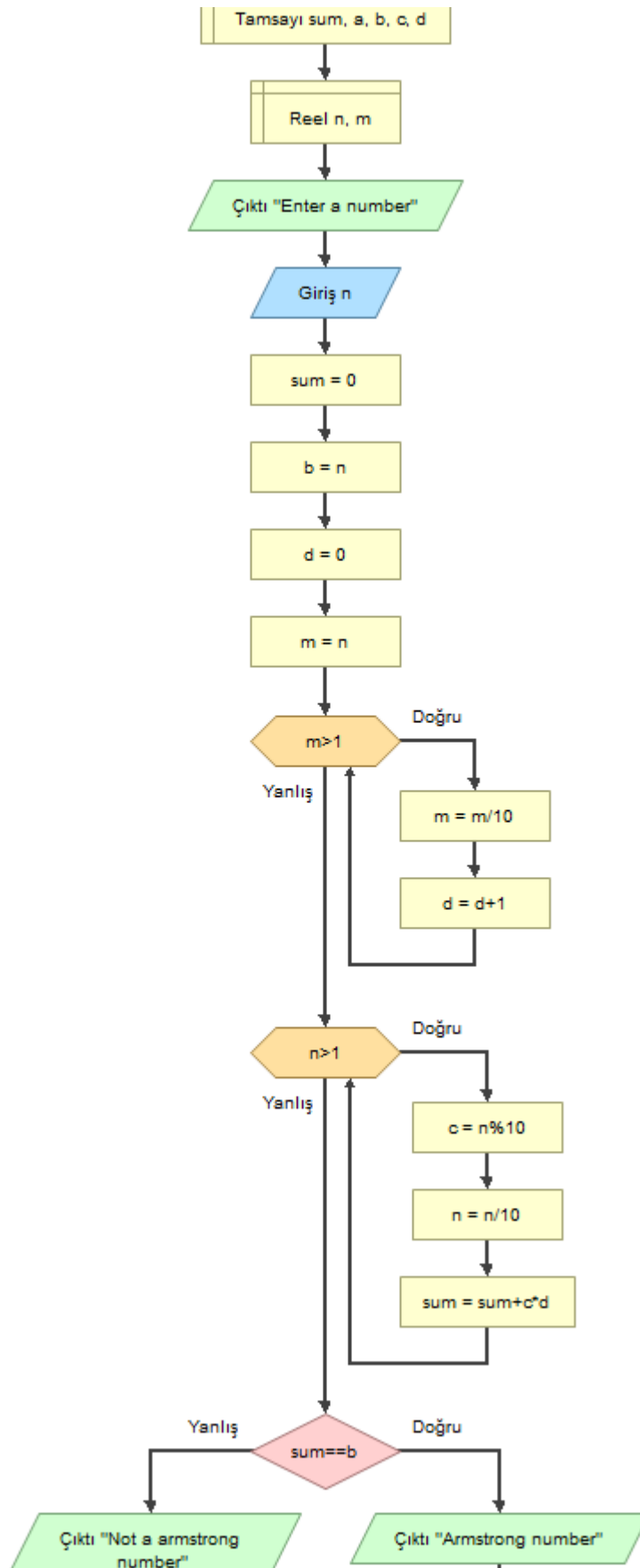
11- Draw a flow chart to check whether a number is Perfect number or not.

```
                    ┌──────────┐
                    │   Ana    │
                    └──────────┘
                         │
                         ▼
              ┌────────────────────────┐
              │ Tamsayı number, sum,   │
              │       counter          │
              └────────────────────────┘
                         │
                         ▼
                   ┌──────────┐
                   │ sum = 0  │
                   └──────────┘
                         │
                         ▼
                 ┌─────────────┐
                 │ counter = 1 │
                 └─────────────┘
                         │
                         ▼
            ╱─────────────────────────╱
           ╱ Çıktı "Enter the number" ╱
          ╱───────────────────────────╱
                         │
                         ▼
              ╱──────────────────╱
             ╱   Giriş number   ╱
            ╱───────────────────╱
                         │
                         ▼
              counter < number ──── Doğru
                    │
                  Yanlış                    number % counter == 0
                    │        Yanlış ────────────┘            └──── Doğru
                    │                                              │
                    │                                              ▼
                    │                                   ┌────────────────────┐
                    │                                   │ sum = sum + counter│
                    │                                   └────────────────────┘
                    │                     ●
                    │                     │
                    │            ┌──────────────────────┐
                    │            │ counter = counter + 1│
                    │            └──────────────────────┘
                    ▼
      Yanlış ─── sum == number ─── Doğru
         │                          │
         ▼                          ▼
  ╱──────────────────╱      ╱──────────────────────╱
 ╱ Çıktı "mükemmel   ╱     ╱ Çıktı "mükemmel sayıdır"╱
╱  sayı değildir"    ╱    ╱──────────────────────────╱
         │                          │
         └────────── ● ─────────────┘
                     │
                     ▼
               ┌──────────┐
               │   Son    │
               └──────────┘
```
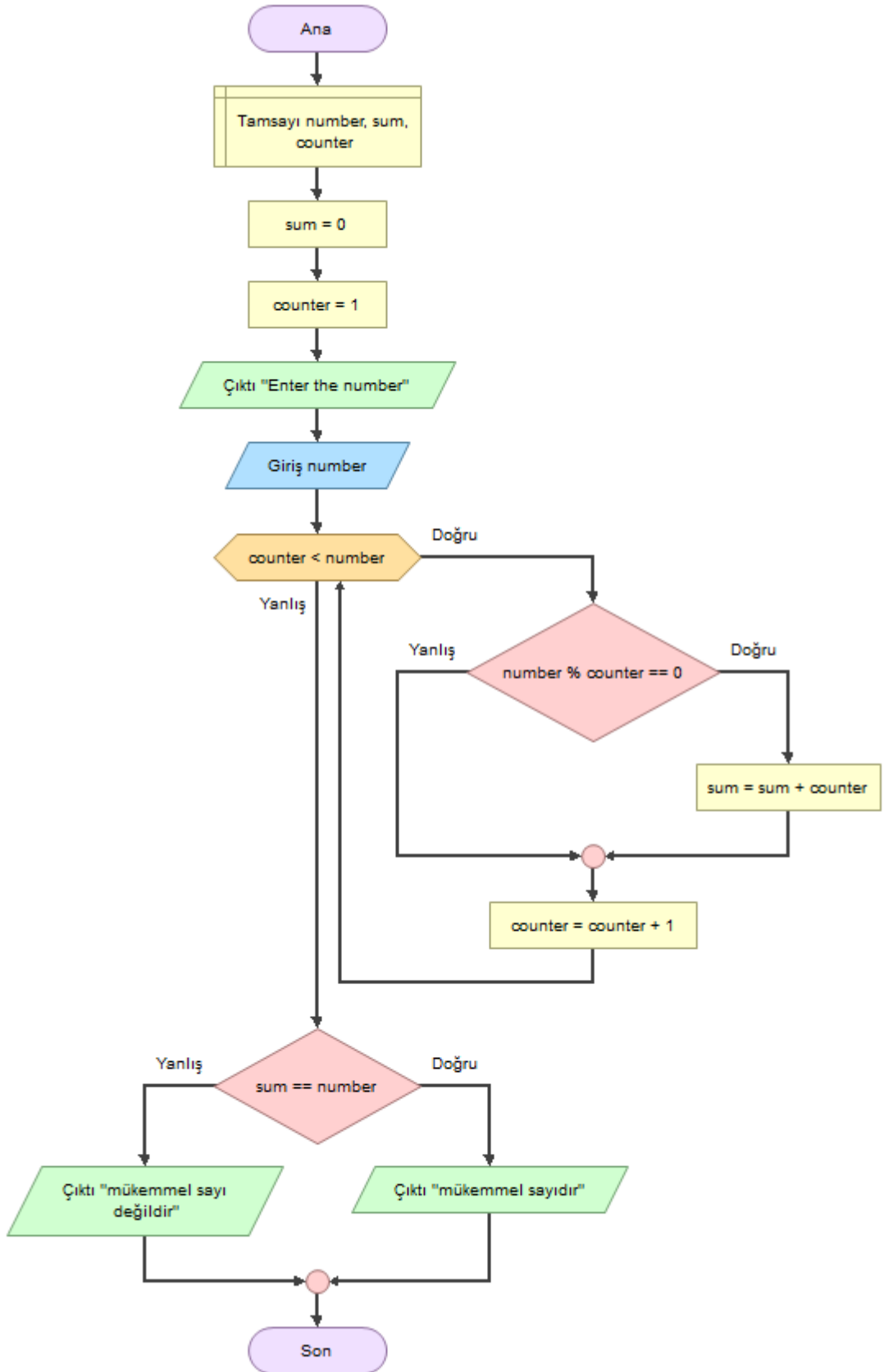
15- Draw a flow chart to check Whether a Number is Palindrome or Not

```
        ┌─────────┐
        │  Main   │
        └─────────┘
             │
    ┌────────────────────┐
    │ Integer k, a, b, answ, f │
    └────────────────────┘
             │
    ╱────────────────────╲
    │ Output "Enter a number" │
    ╲────────────────────╱
             │
        ┌─────────┐
        │ Input k │
        └─────────┘
             │
        ┌─────────┐
        │  f = k  │
        └─────────┘
             │
        ┌─────────┐
        │ answ = 0 │
        └─────────┘
             │
         ⬡ k!=0 ⬡ ──True──┐
             │             │
          False        ┌─────────┐
             │         │ a = k%10 │
             │         └─────────┘
             │             │
             │      ┌──────────────────┐
             │      │ answ = answ*10+a │
             │      └──────────────────┘
             │             │
             │         ┌─────────┐
             │         │ k = k/10 │
             │         └─────────┘
             │             │
             └─────────────┘
             │
    False ◇ f == answ ◇ True
      │                  │
╱──────────────╲   ╱──────────────╲
│ Output answ&"ins't a polindrom │   │ Output answ&"Polindrom │
│ number"       │   │ number"       │
╲──────────────╱   ╲──────────────╱
      │                  │
      └────────●─────────┘
             │
        ┌─────────┐
        │   End   │
        └─────────┘
```
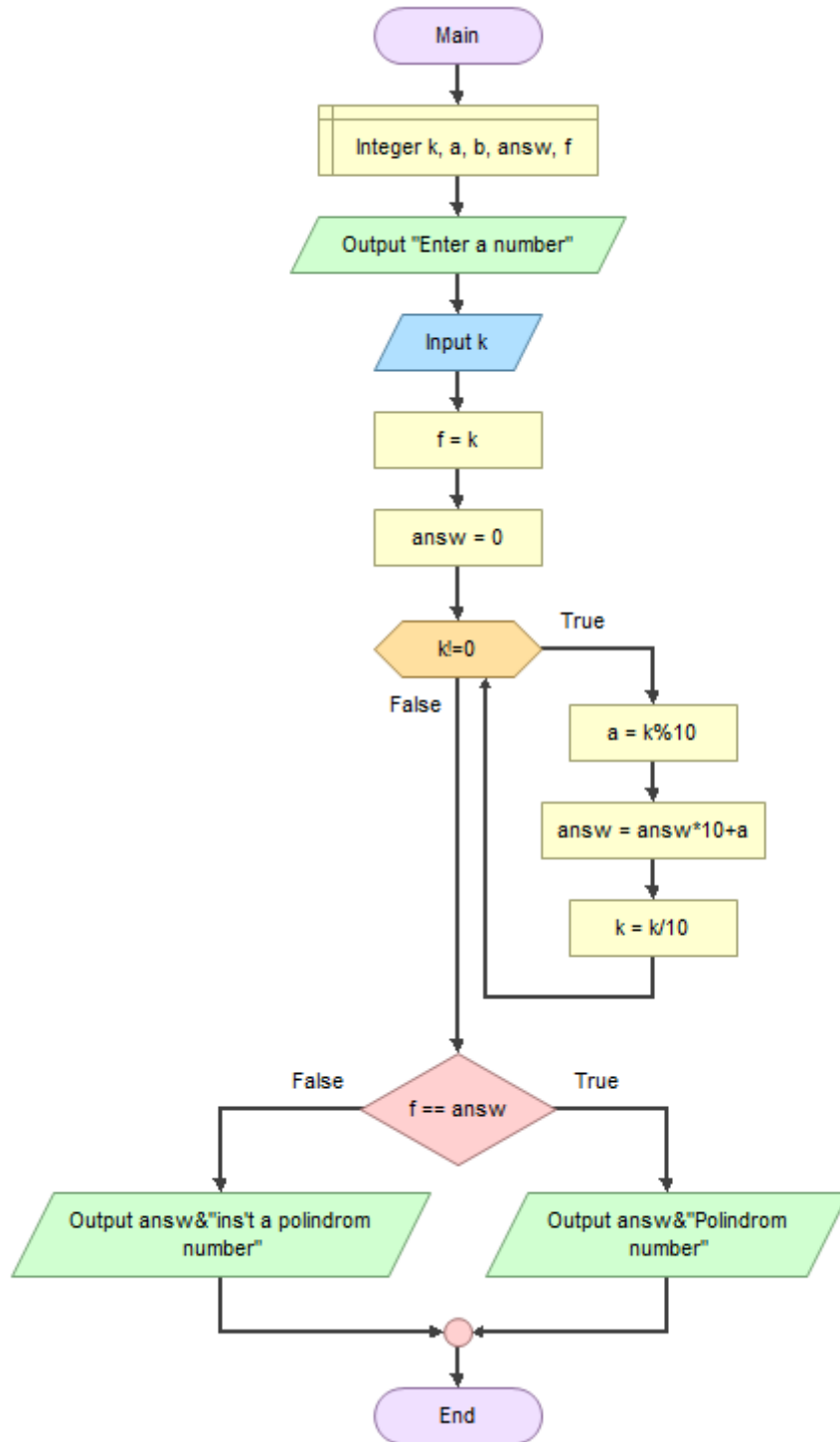
22- Draw a flow chart to find the number and sum of all integer between 100 and 200 which are divisible by 9.

```
          ( Main )
             |
             v
   +---------------------+
   | Integer counter, sum |
   +---------------------+
             |
             v
   +---------------------+
   |   counter = 100     |
   +---------------------+
             |
             v
   +---------------------+
   |      sum = 0        |
   +---------------------+
             |
             v                        True
   < counter <= 200 >----------------------+
             |                             |
          False                            v
             |                   +---------------------+
             |                   | sum = sum + counter |
             |                   +---------------------+
             |                             |
             |                             v
             |                   +---------------------+
             |                   | counter = counter + 1 |
             |                   +---------------------+
             |                             |
             +<----------------------------+
             |
             v
   / Output "Total: " &sum /
             |
             v
          ( End )
```