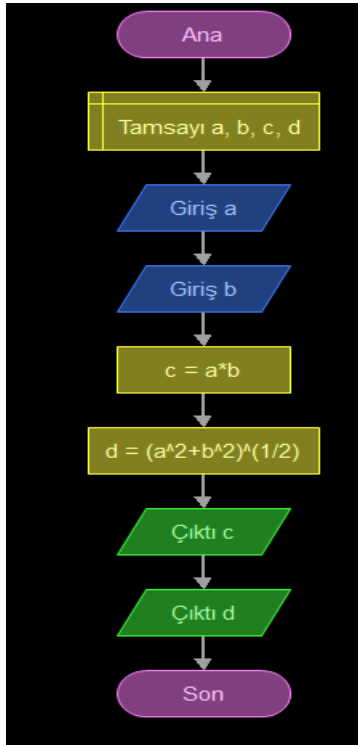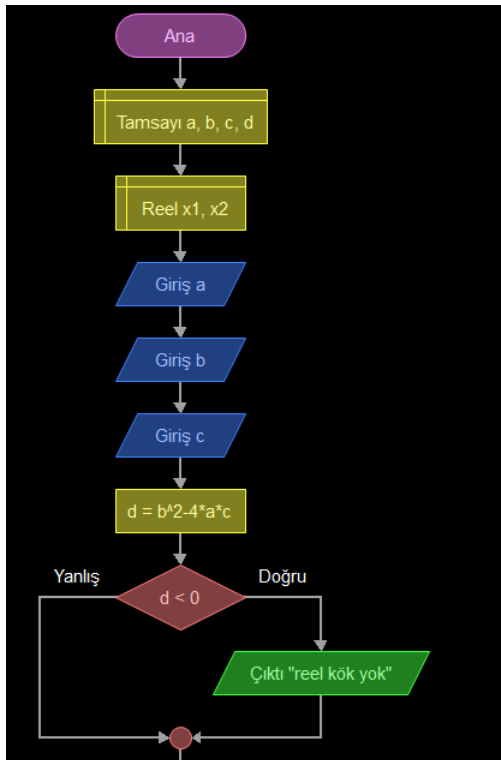1. Write an algorithm and draw a flowchart that will read the two sides of a rectangle and calculate its area and perimeter.
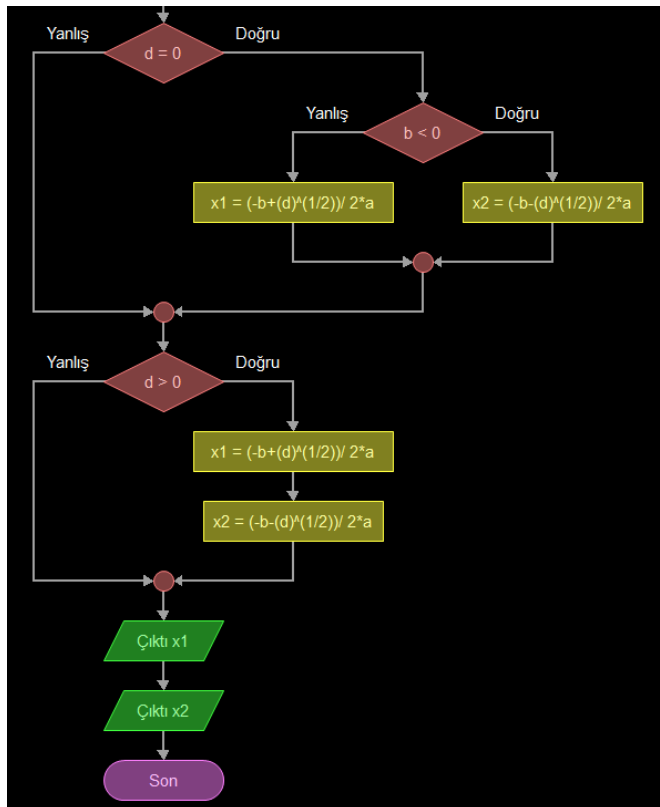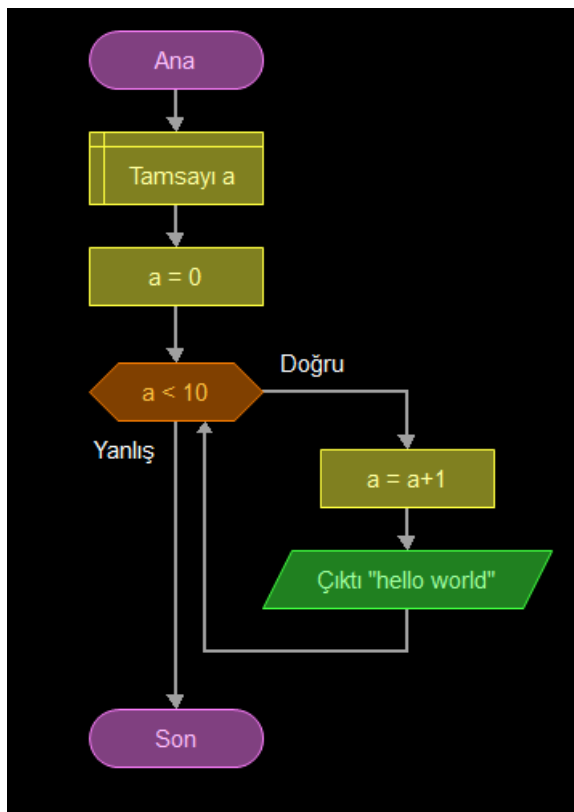

2. Draw a flowchart to find all the roots of a quadratic equation ax2+bx+c=0.
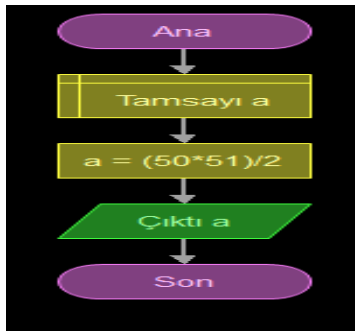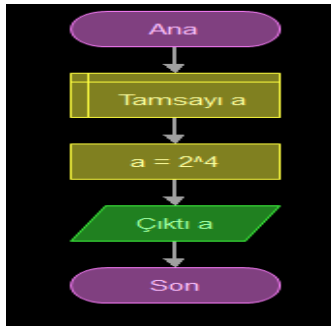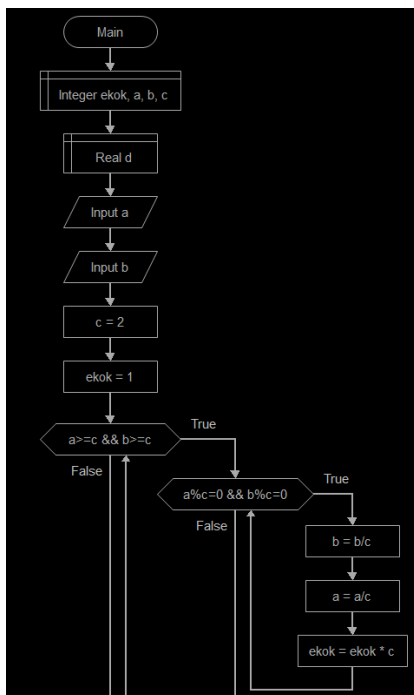
3. Print Hello World 10 times

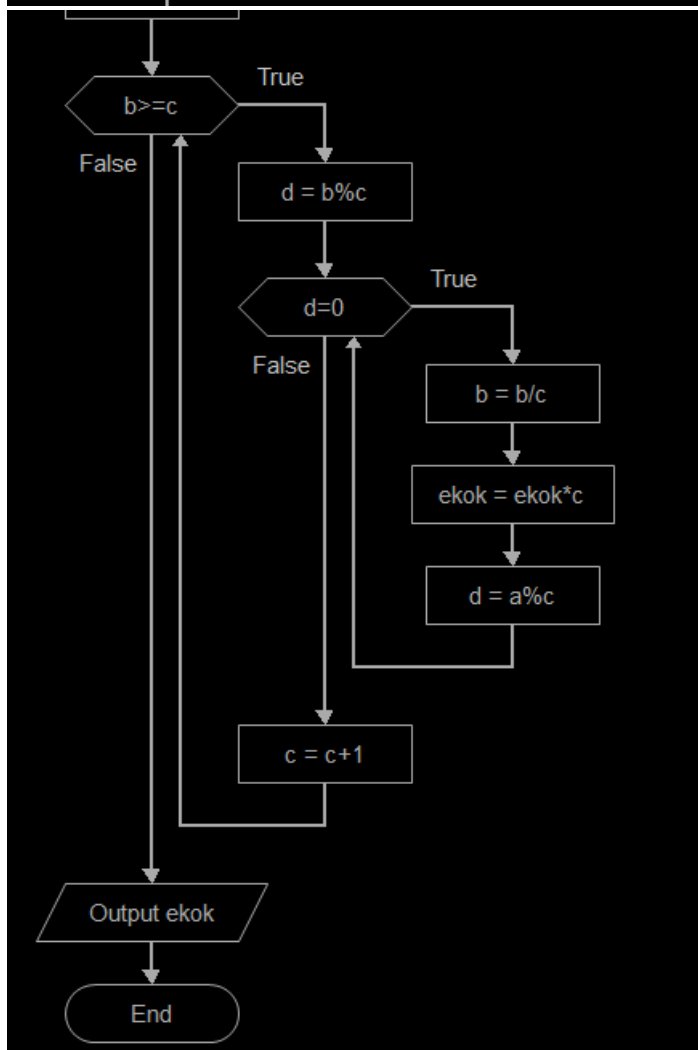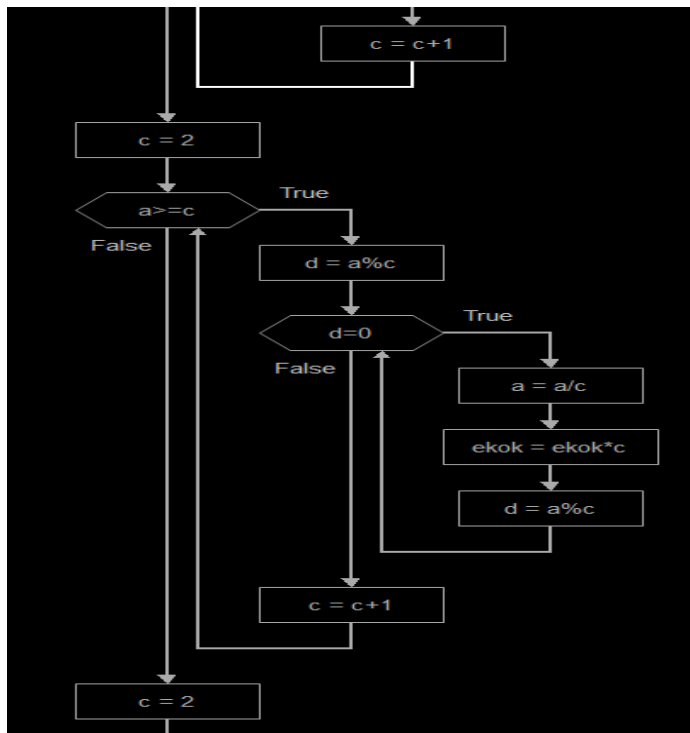4. Draw a flowchart to find the sum of the first 50 natural numbers.

5. Write an algorithm and draw a flowchart to calculate 24.

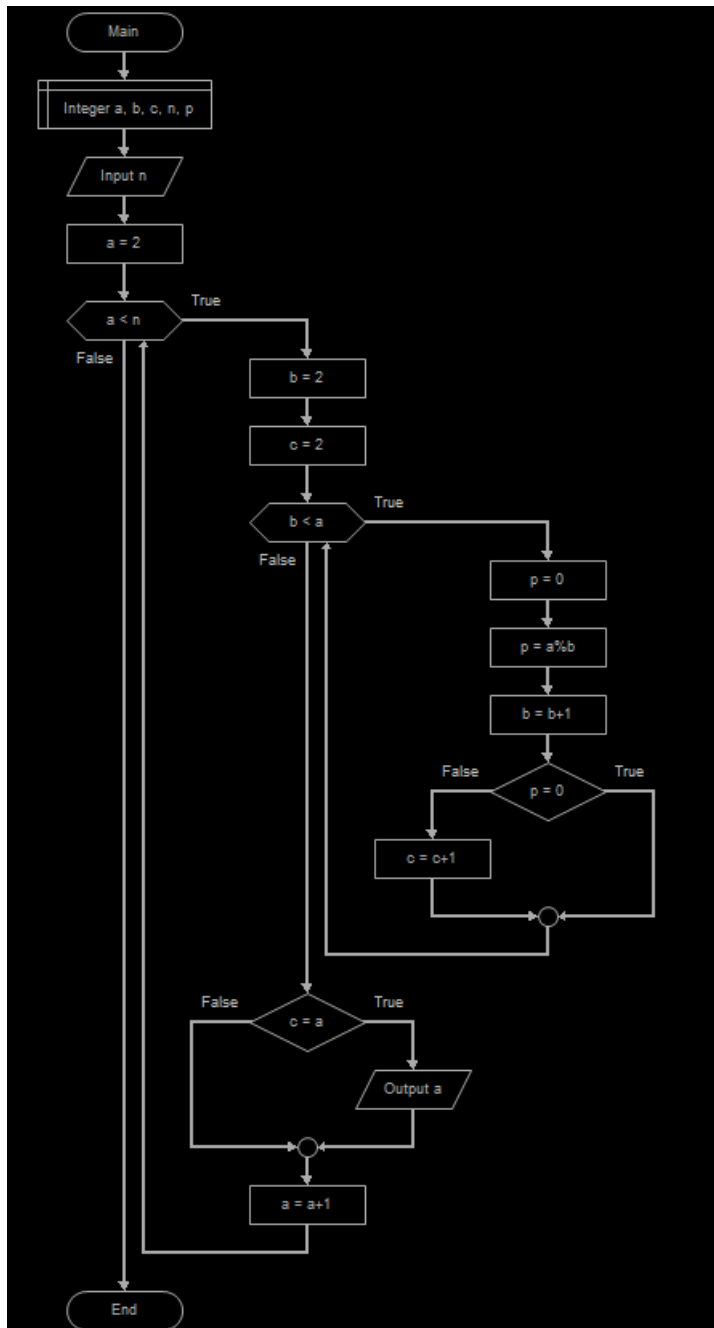6. Draw a flow chart to find LCM of two numbers

```
                          ┌──────────────┐
                          │   c = c+1    │
                          └──────────────┘

        ┌──────────────┐
        │    c = 2     │
        └──────────────┘
               │
          ╱─────────╲        True
         ╱  a>=c     ╲──────────────┐
         ╲           ╱              │
          ╲─────────╱          ┌──────────────┐
          False                │   d = a%c    │
                               └──────────────┘
                                      │
                                 ╱─────────╲        True
                                ╱   d=0     ╲──────────────┐
                                ╲           ╱              │
                                 ╲─────────╱          ┌──────────────┐
                                 False                │   a = a/c    │
                                                      └──────────────┘
                                                             │
                                                      ┌──────────────┐
                                                      │ ekok = ekok*c│
                                                      └──────────────┘
                                                             │
                                                      ┌──────────────┐
                                                      │   d = a%c    │
                                                      └──────────────┘
                               ┌──────────────┐
                               │   c = c+1    │
                               └──────────────┘

        ┌──────────────┐
        │    c = 2     │
        └──────────────┘
               │
          ╱─────────╲        True
         ╱  b>=c     ╲──────────────┐
         ╲           ╱              │
          ╲─────────╱          ┌──────────────┐
          False                │   d = b%c    │
                               └──────────────┘
                                      │
                                 ╱─────────╲        True
                                ╱   d=0     ╲──────────────┐
                                ╲           ╱              │
                                 ╲─────────╱          ┌──────────────┐
                                 False                │   b = b/c    │
                                                      └──────────────┘
                                                             │
                                                      ┌──────────────┐
                                                      │ ekok = ekok*c│
                                                      └──────────────┘
                                                             │
                                                      ┌──────────────┐
                                                      │   d = a%c    │
                                                      └──────────────┘
                               ┌──────────────┐
                               │   c = c+1    │
                               └──────────────┘

        ╱──────────────╲
       ╱  Output ekok   ╲
       ╲────────────────╱
               │
          ╭─────────╮
          │   End   │
          ╰─────────╯
```
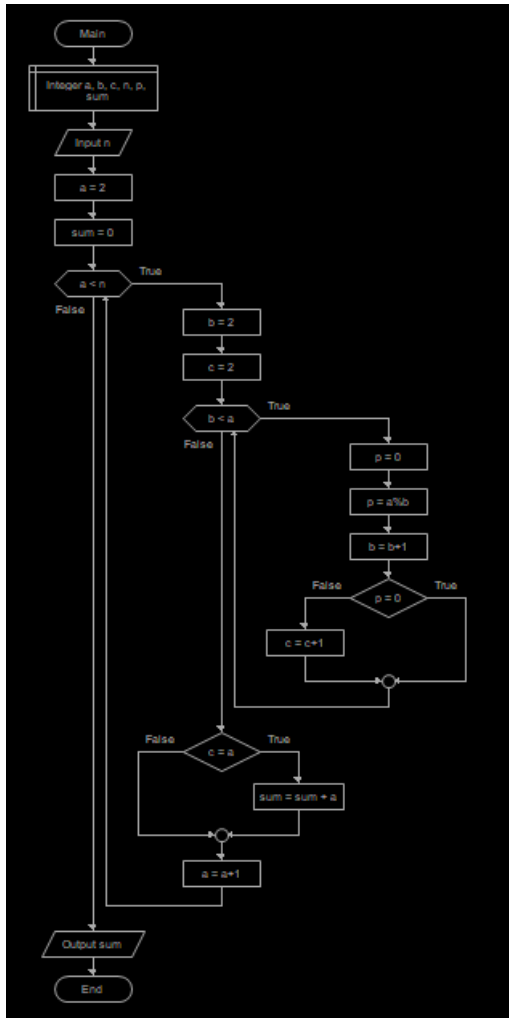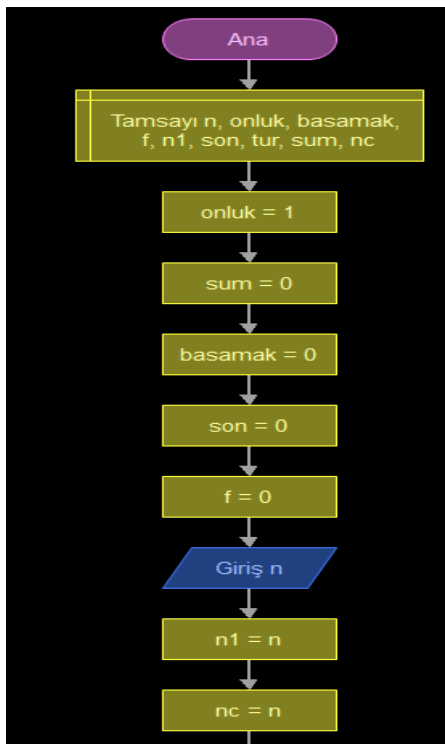
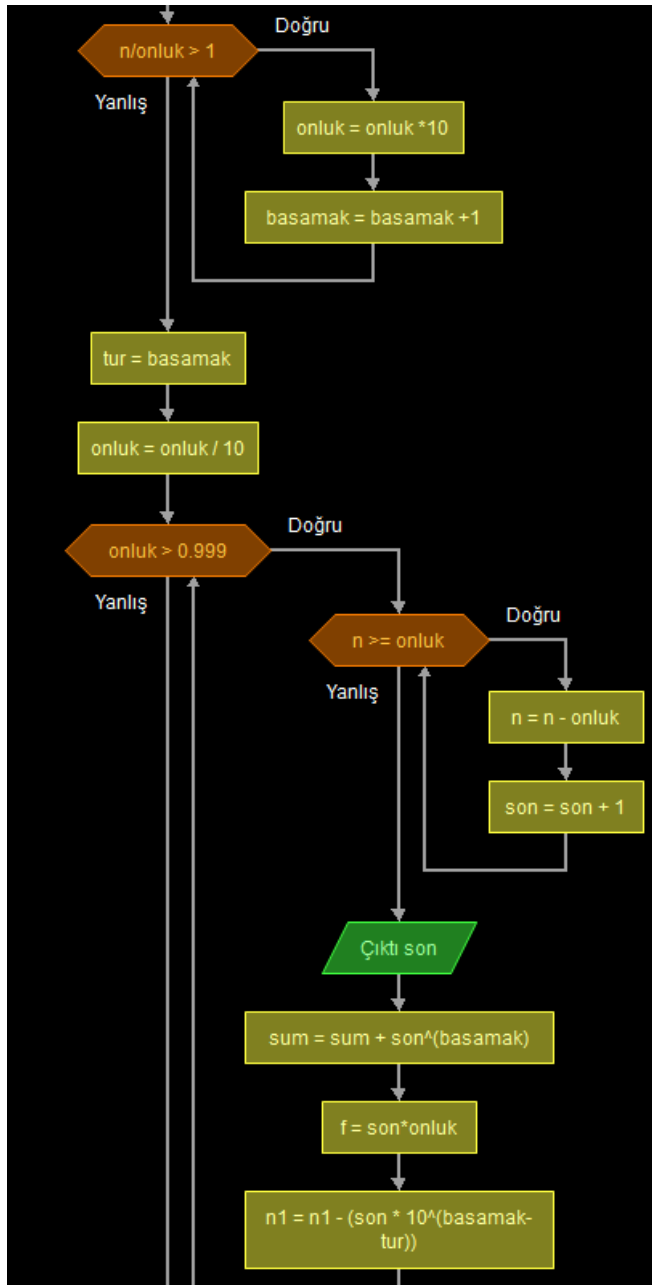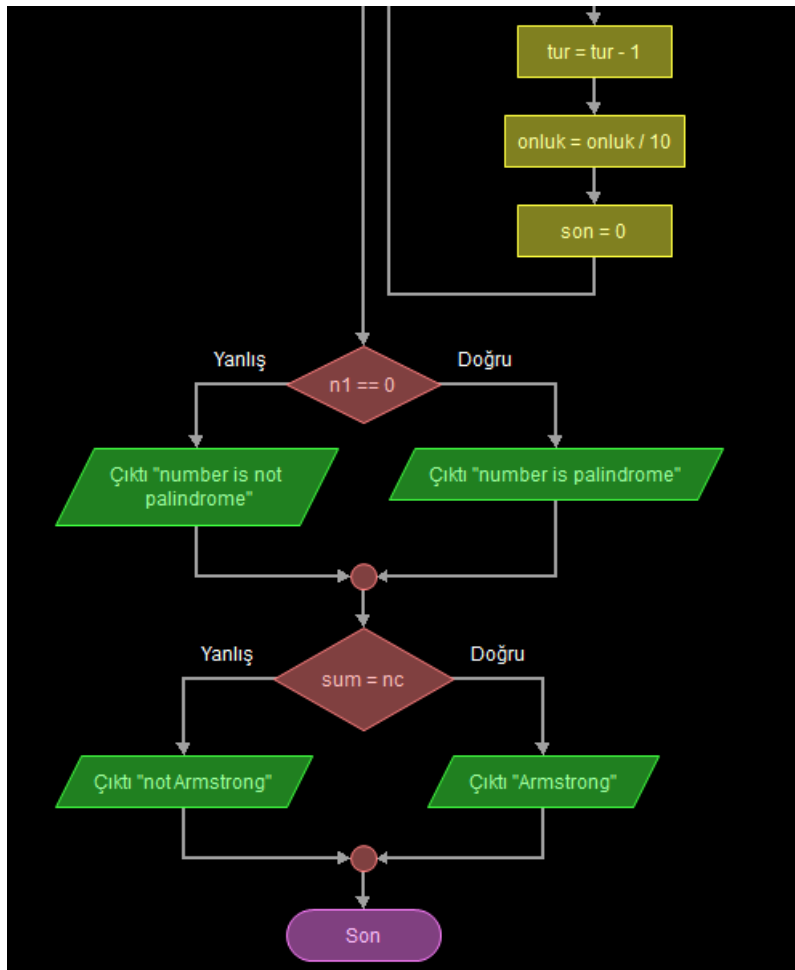7. Draw a flow chart to print all Prime numbers between 1 to n

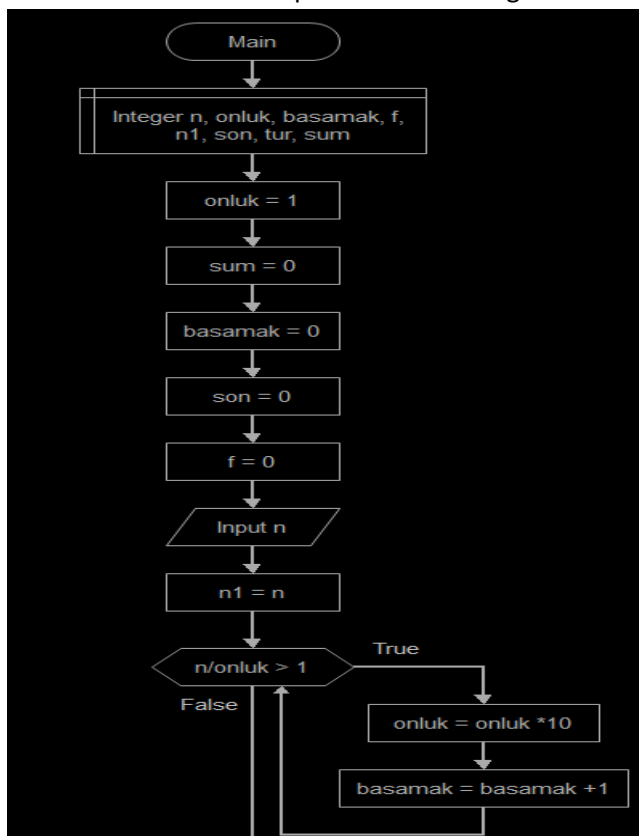8. Draw a flow chart to find sum of all prime numbers between 1 to n.

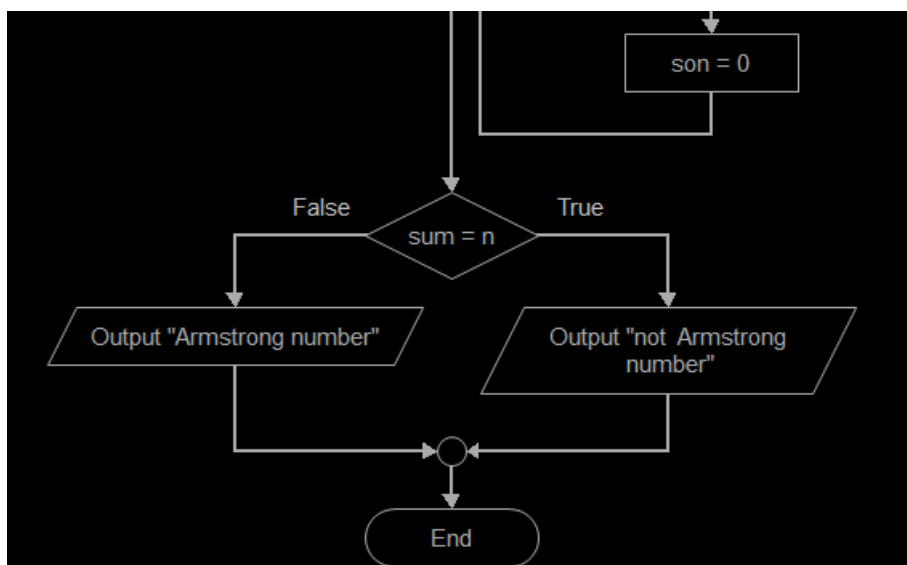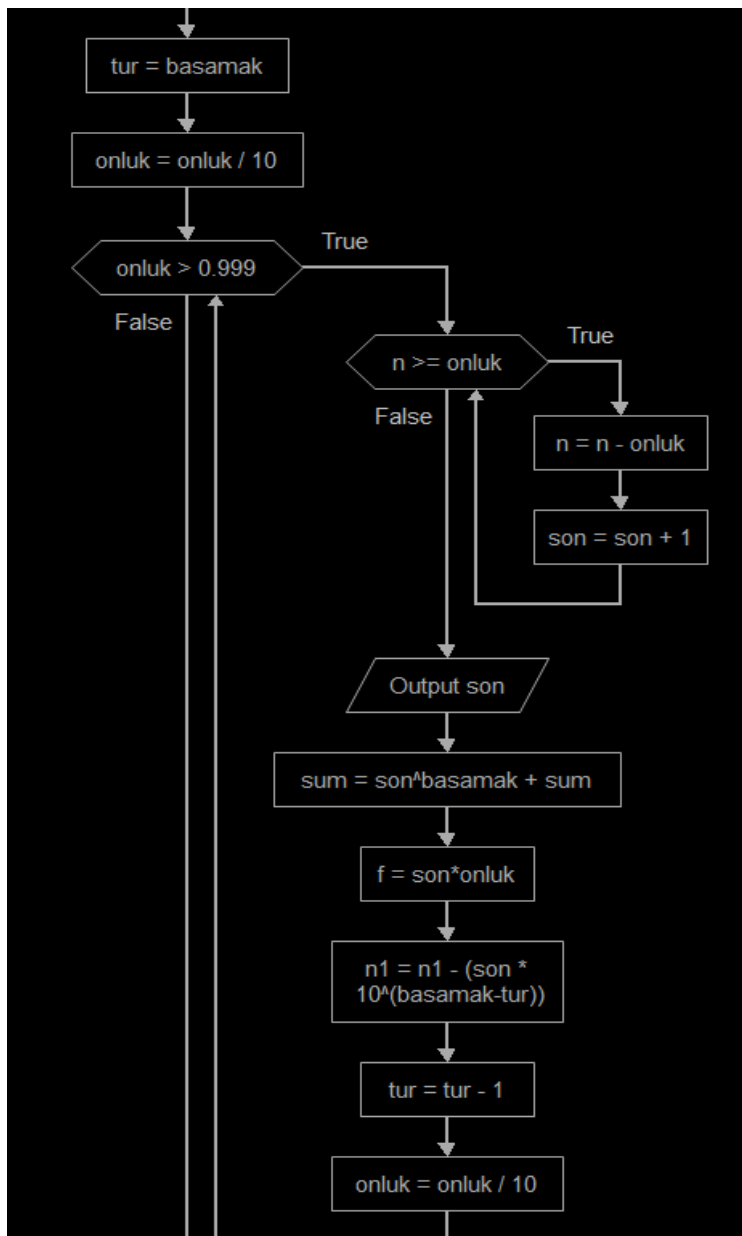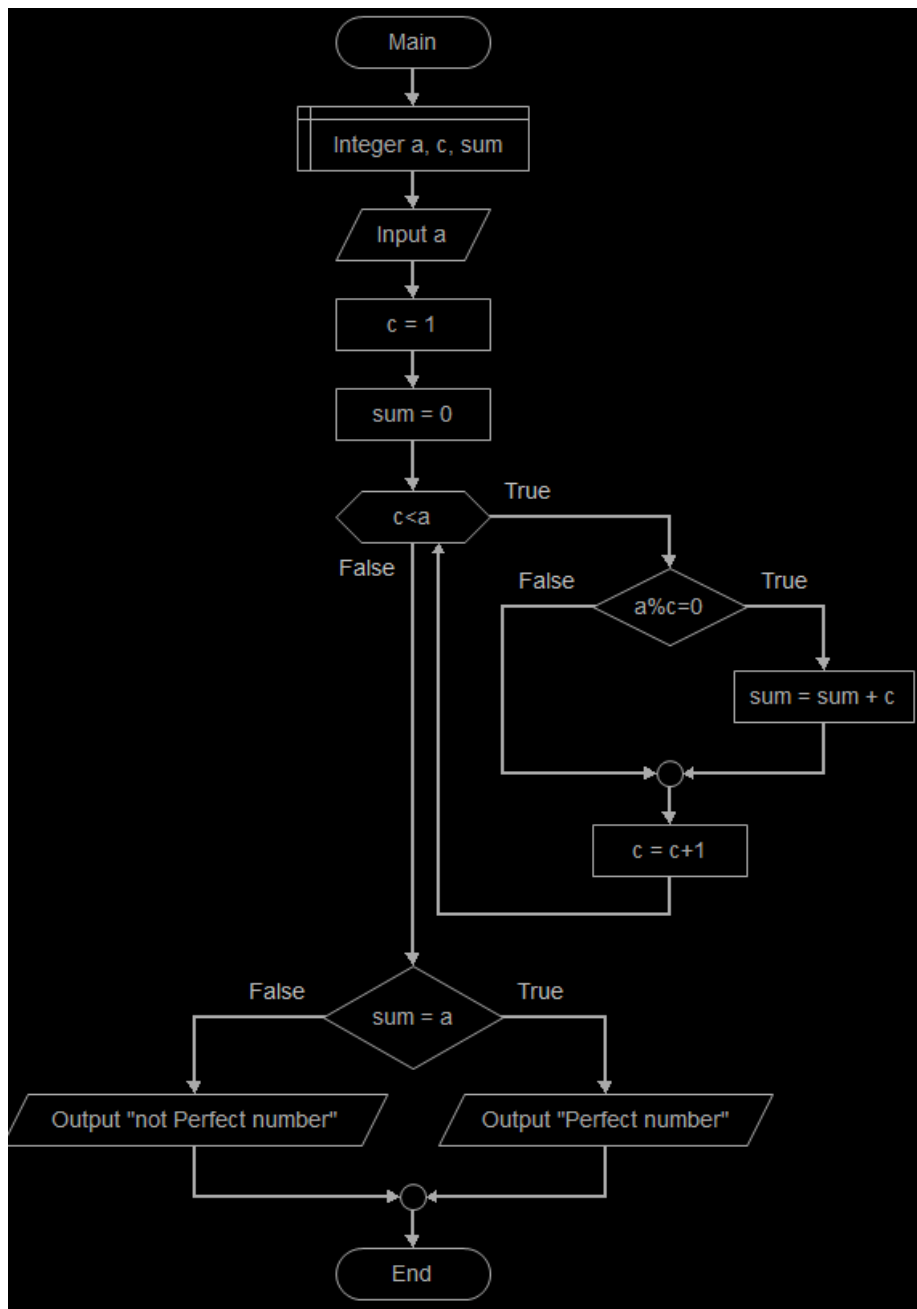9. Draw a flow chart to check whether a number is Armstrong number or no

```
               ┌──── Doğru ─────┐
      ◆ n/onluk > 1             │
        │ Yanlış         ┌──────────────────┐
        │                │ onluk = onluk *10 │
        │                └──────────────────┘
        │                         │
        │                ┌──────────────────────┐
        │                │ basamak = basamak +1  │
        │                └──────────────────────┘
        │
   ┌──────────────┐
   │ tur = basamak │
   └──────────────┘
        │
   ┌──────────────────┐
   │ onluk = onluk / 10 │
   └──────────────────┘
        │
      ◆ onluk > 0.999 ──── Doğru ────┐
        │ Yanlış                      │
        │                   ◆ n >= onluk ──── Doğru ────┐
        │                     │ Yanlış            ┌──────────────┐
        │                     │                   │ n = n - onluk │
        │                     │                   └──────────────┘
        │                     │                          │
        │                     │                   ┌──────────────┐
        │                     │                   │ son = son + 1 │
        │                     │                   └──────────────┘
        │                     │
        │              ╱ Çıktı son ╱
        │                     │
        │         ┌──────────────────────────┐
        │         │ sum = sum + son^(basamak) │
        │         └──────────────────────────┘
        │                     │
        │              ┌──────────────┐
        │              │ f = son*onluk │
        │              └──────────────┘
        │                     │
        │    ┌──────────────────────────────────┐
        │    │ n1 = n1 - (son * 10^(basamak-tur)) │
        │    └──────────────────────────────────┘
```

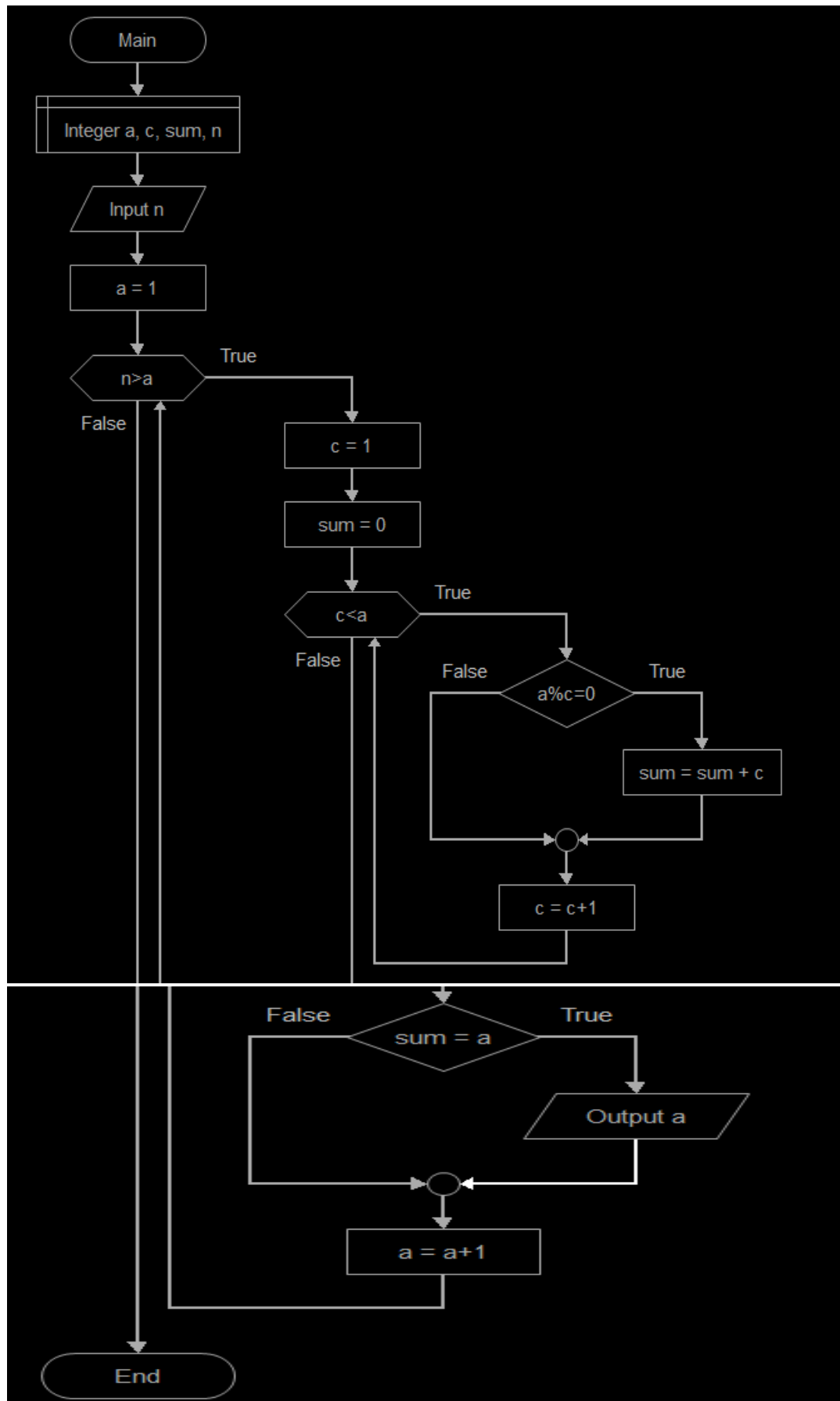10.Draw a flow chart to print all Armstrong numbers between 1 to n.

```
tur = basamak
        │
        ▼
onluk = onluk / 10
        │
        ▼
   ┌─────────────┐   True
   │ onluk > 0.999 ├──────────┐
   └─────────────┘           │
      │ False                │
      │                      ▼
      │              ┌─────────────┐   True
      │              │  n >= onluk  ├──────────┐
      │              └─────────────┘          │
      │                 │ False               ▼
      │                 │              ┌─────────────┐
      │                 │              │ n = n - onluk │
      │                 │              └─────────────┘
      │                 │                     │
      │                 │                     ▼
      │                 │              ┌─────────────┐
      │                 │              │ son = son + 1 │
      │                 │              └─────────────┘
      │                 │
      │                 ▼
      │          ╱ Output son ╱
      │                 │
      │                 ▼
      │       ┌──────────────────────┐
      │       │ sum = son^basamak + sum │
      │       └──────────────────────┘
      │                 │
      │                 ▼
      │          ┌─────────────┐
      │          │ f = son*onluk │
      │          └─────────────┘
      │                 │
      │                 ▼
      │       ┌──────────────────────┐
      │       │ n1 = n1 - (son *      │
      │       │ 10^(basamak-tur))     │
      │       └──────────────────────┘
      │                 │
      │                 ▼
      │          ┌─────────────┐
      │          │  tur = tur - 1 │
      │          └─────────────┘
      │                 │
      │                 ▼
      │       ┌──────────────────────┐
      │       │ onluk = onluk / 10    │
      │       └──────────────────────┘
```

```
                           ┌─────────┐
                           │ son = 0 │
                           └─────────┘

         False    ◇ sum = n ◇    True
           │                       │
           ▼                       ▼
  ╱ Output "Armstrong number" ╱    ╱ Output "not Armstrong ╱
                                   ╱    number"           ╱
           │                       │
           └───────────●───────────┘
                       │
                       ▼
                   ( End )
```
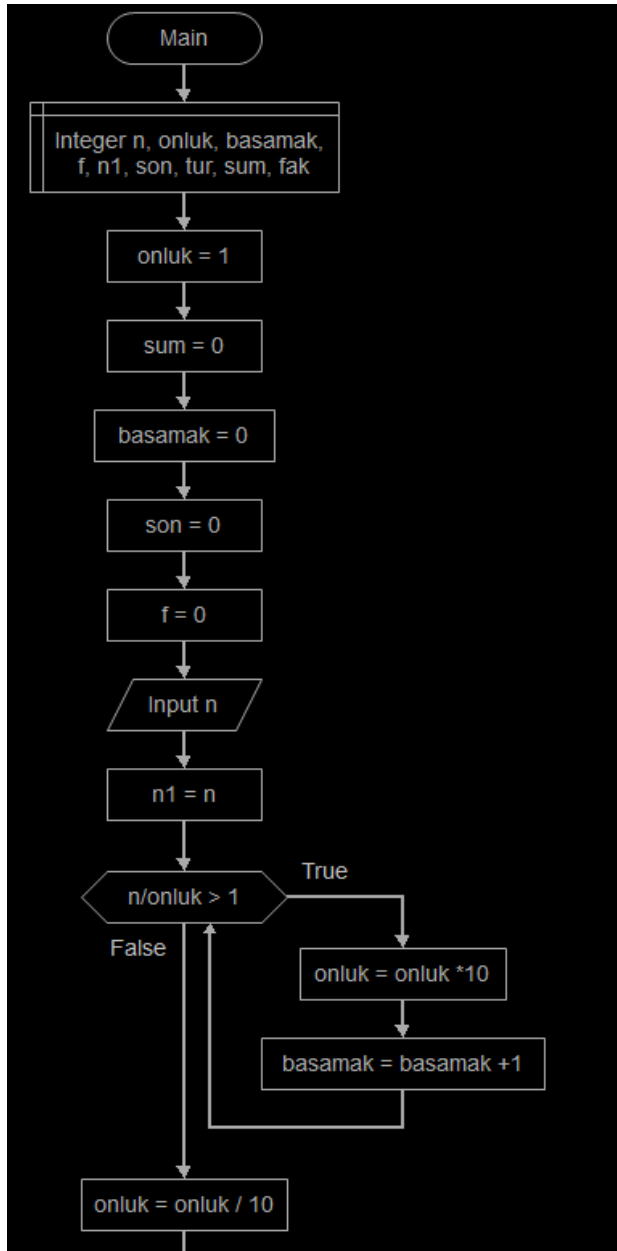
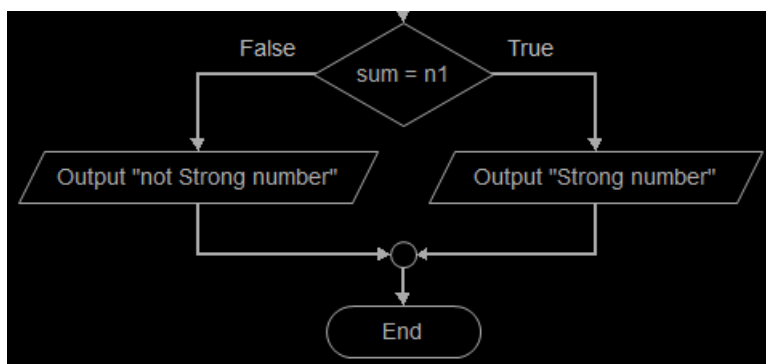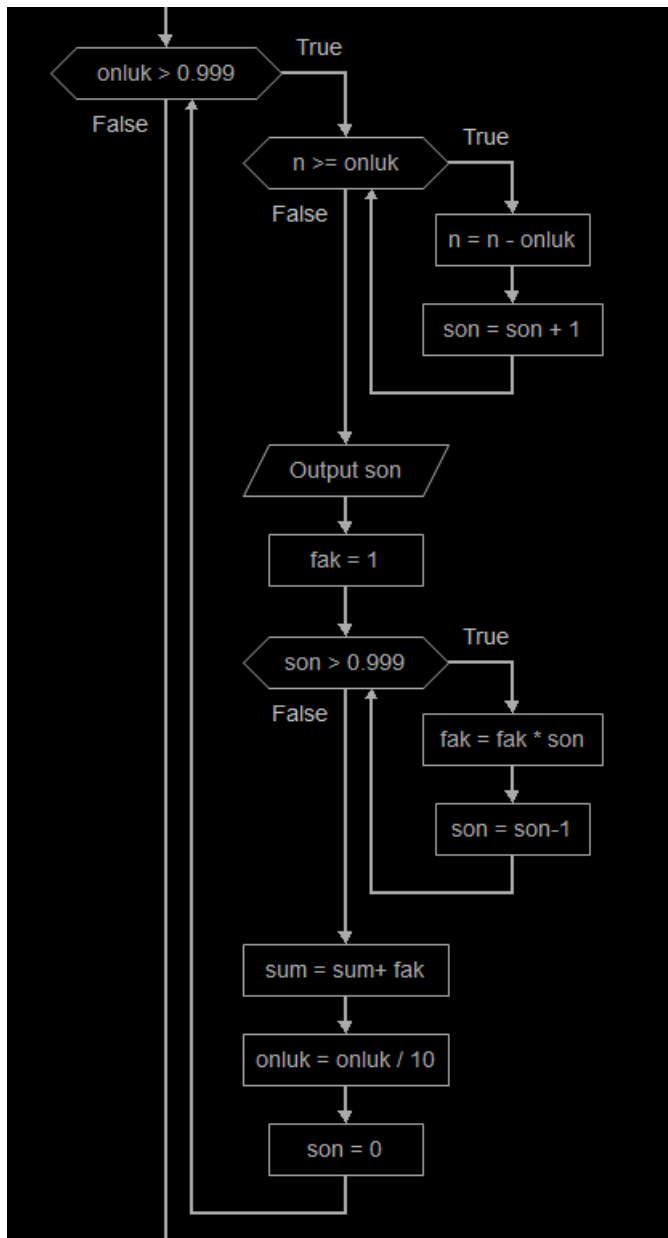11. Draw a flow chart to check whether a number is Perfect number or not.

12.Draw a flow chart to print all Perfect numbers between 1 to n

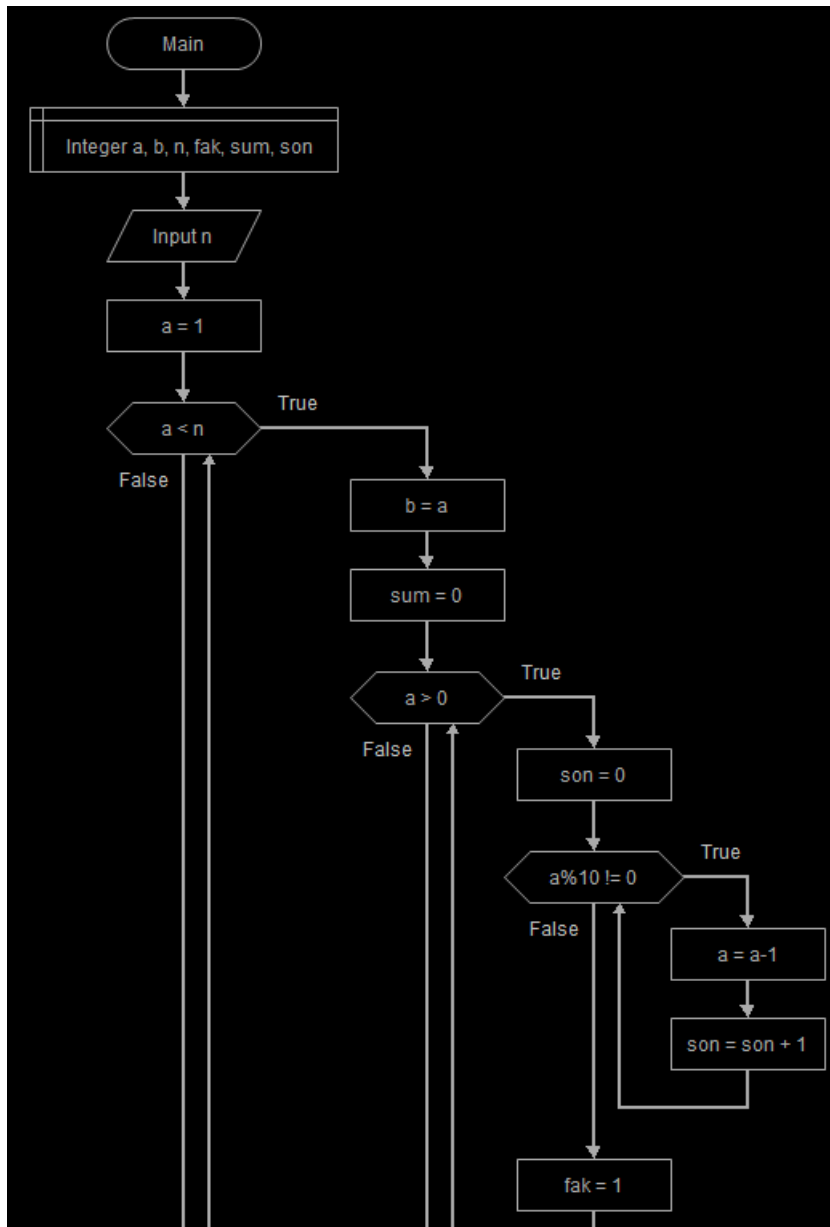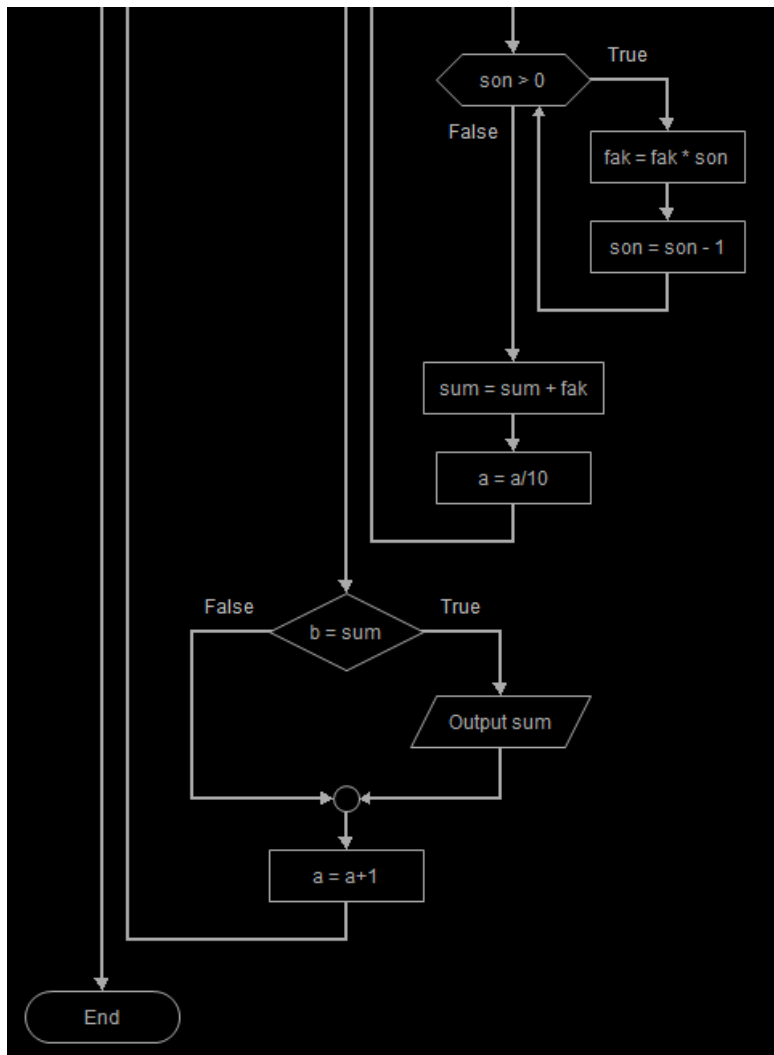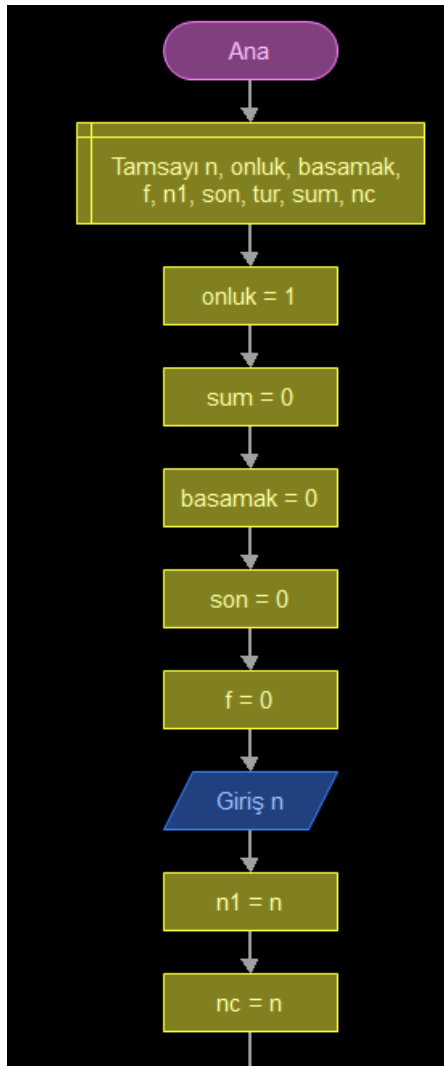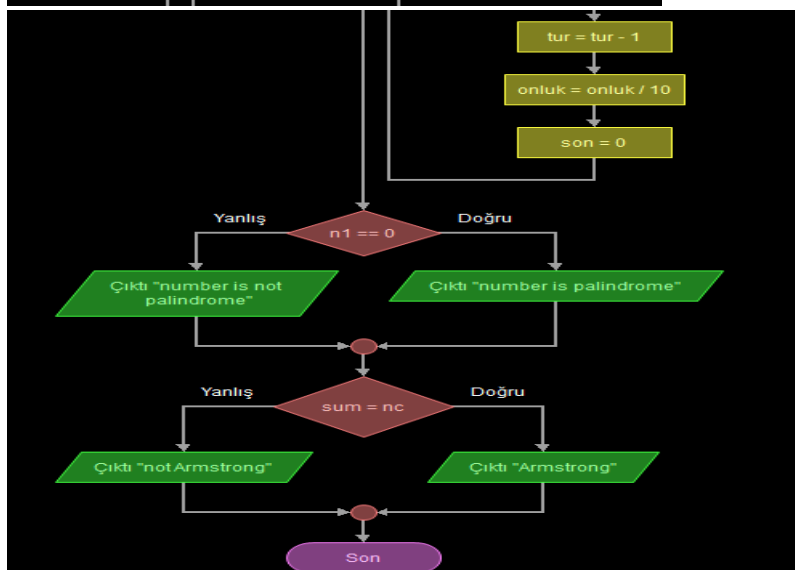13.Draw a flow chart to check whether a number is Strong number or not.

```
True
onluk > 0.999
False
    |
    True
    n >= onluk
    False
        |
        True
        n = n - onluk
        |
        son = son + 1

    Output son
    |
    fak = 1
    |
    True
    son > 0.999
    False
        |
        True
        fak = fak * son
        |
        son = son-1

    sum = sum+ fak
    |
    onluk = onluk / 10
    |
    son = 0
```
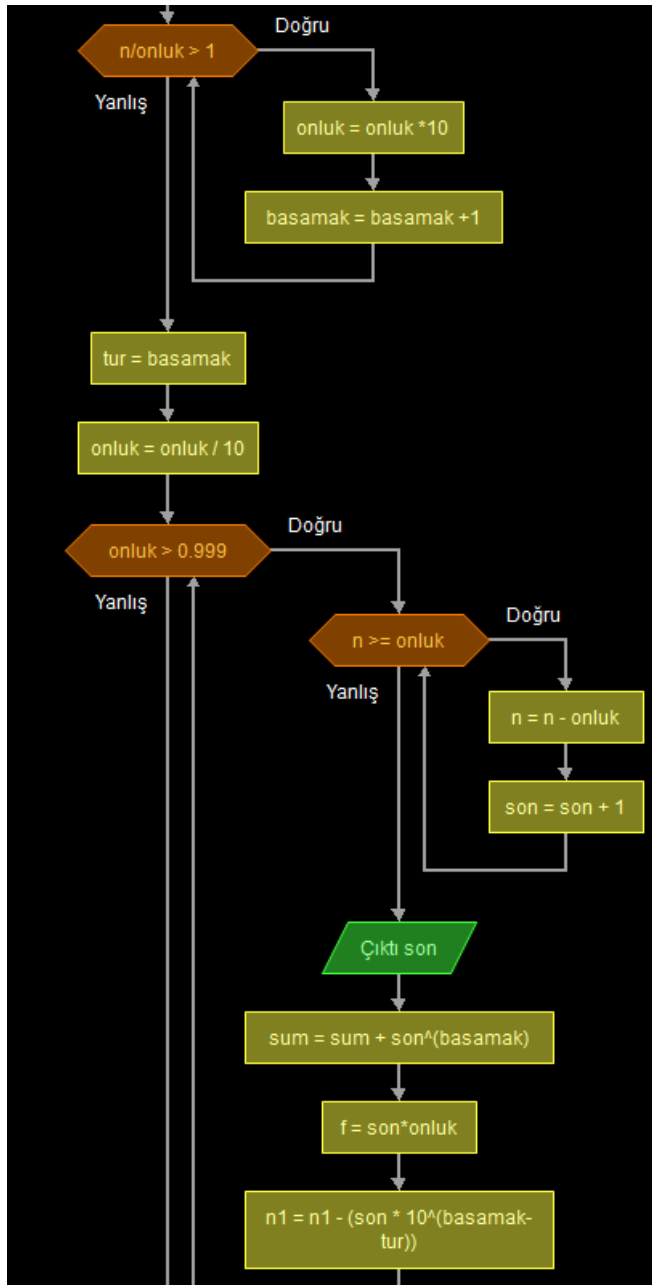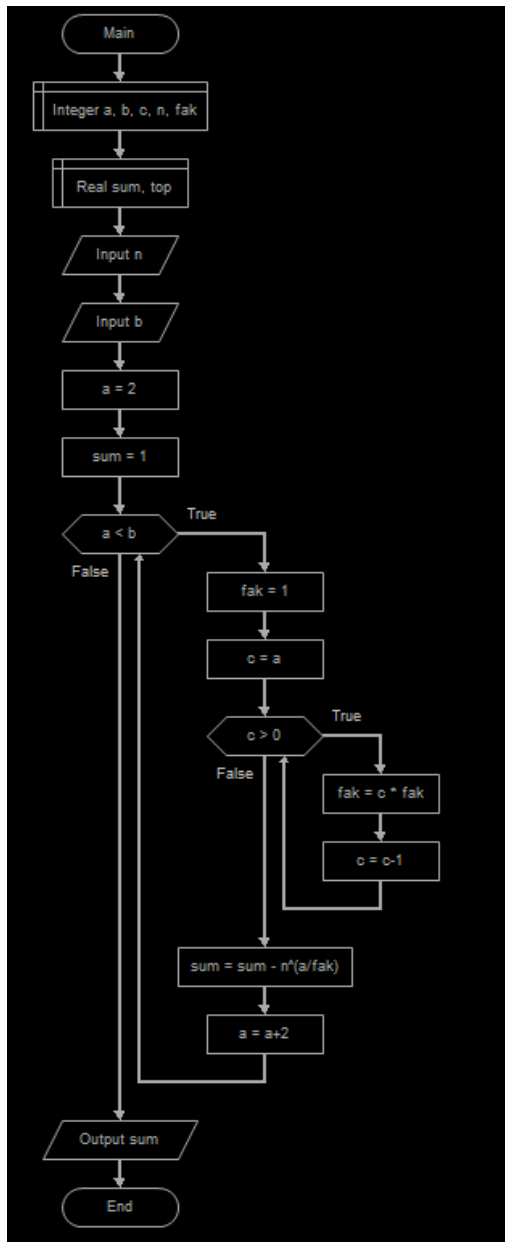


```
False                True
       sum = n1
Output "not Strong number"    Output "Strong number"
                 |
               End
```

14.Draw a flow chart to print all Strong numbers between 1 to n.

15.Draw a flow chart to check Whether a Number is Palindrome or Not

```
        Ana

Tamsayı n, onluk, basamak,
     f, n1, son, tur, sum, nc

        onluk = 1

        sum = 0

        basamak = 0

        son = 0

        f = 0

        Giriş n

        n1 = n

        nc = n
```

n/onluk > 1 — Doğru / Yanlış

- onluk = onluk *10
- basamak = basamak +1

tur = basamak

onluk = onluk / 10

onluk > 0.999 — Doğru / Yanlış

n >= onluk — Doğru / Yanlış

- n = n - onluk
- son = son + 1

Çıktı son

sum = sum + son^(basamak)

f = son*onluk

n1 = n1 - (son * 10^(basamak-tur))

tur = tur - 1

onluk = onluk / 10

son = 0

n1 == 0 — Yanlış / Doğru

Çıktı "number is not palindrome"

Çıktı "number is palindrome"

sum = nc — Yanlış / Doğru

Çıktı "not Armstrong"

Çıktı "Armstrong"

Son

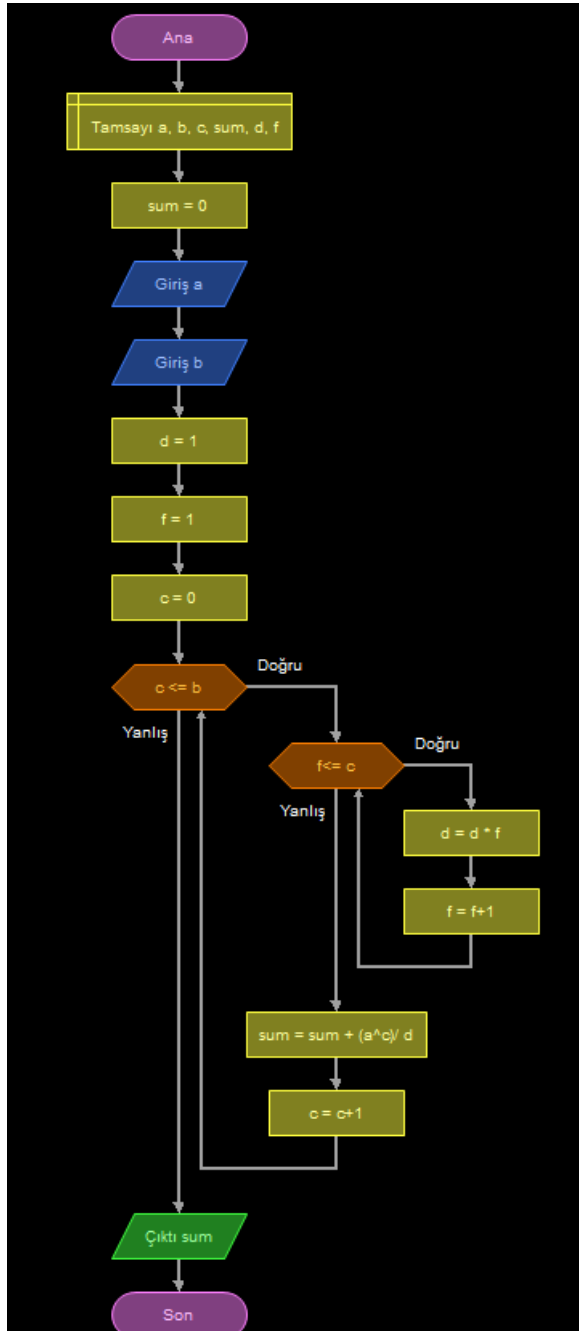16.Draw a flow chart to find the sum of the series [1-X^2/2!+X^4/4!- ....].

17.Draw a flow chart to display the n terms of harmonic series and their sum. (1 + 1/2 + 1/3 + 1/4 + 1/5 ... 1/n terms)
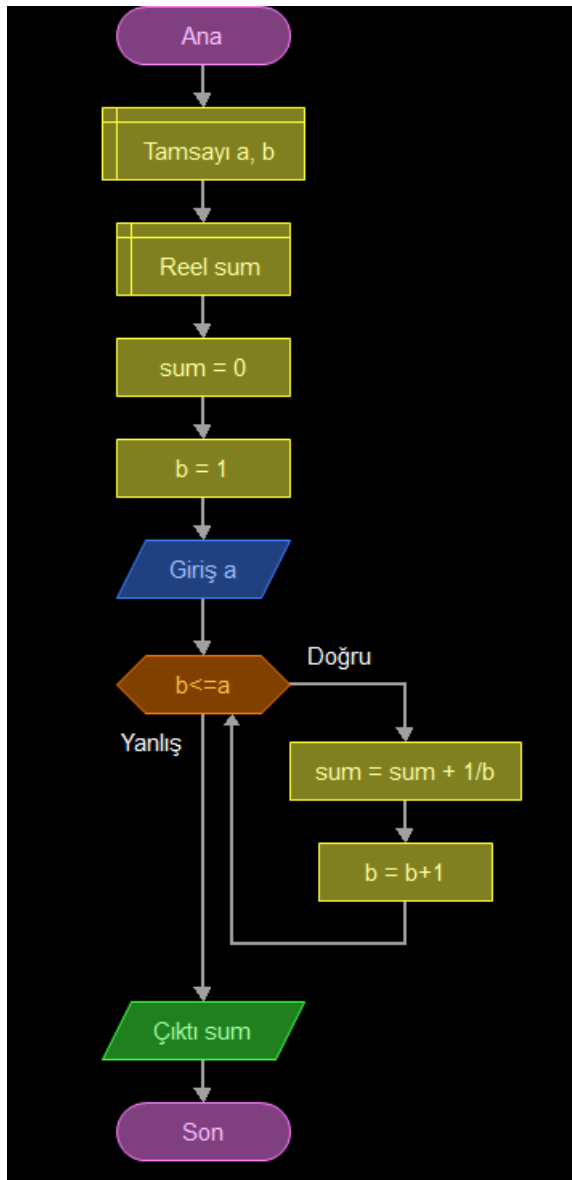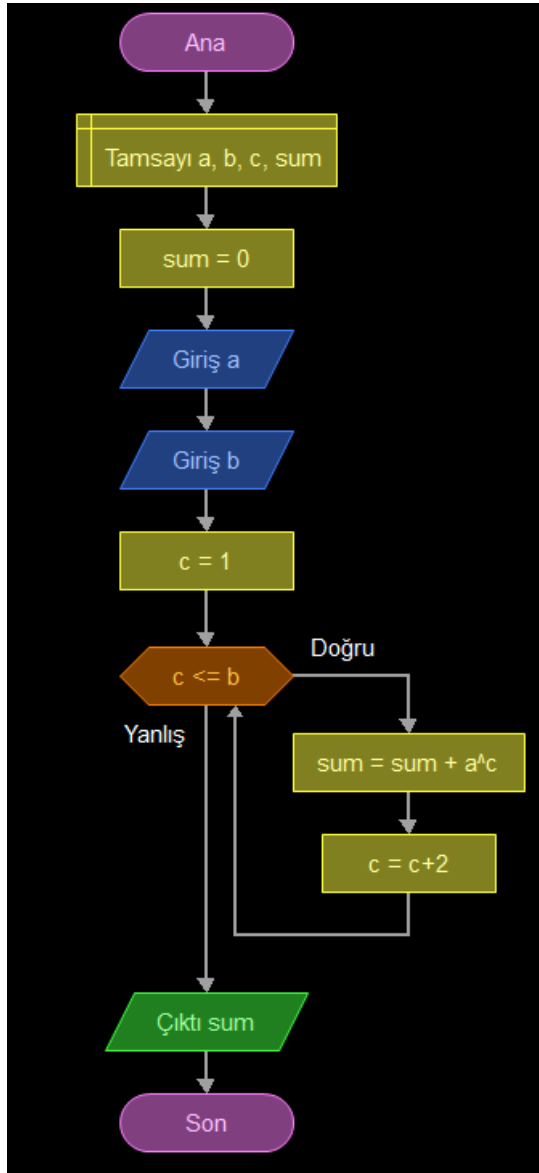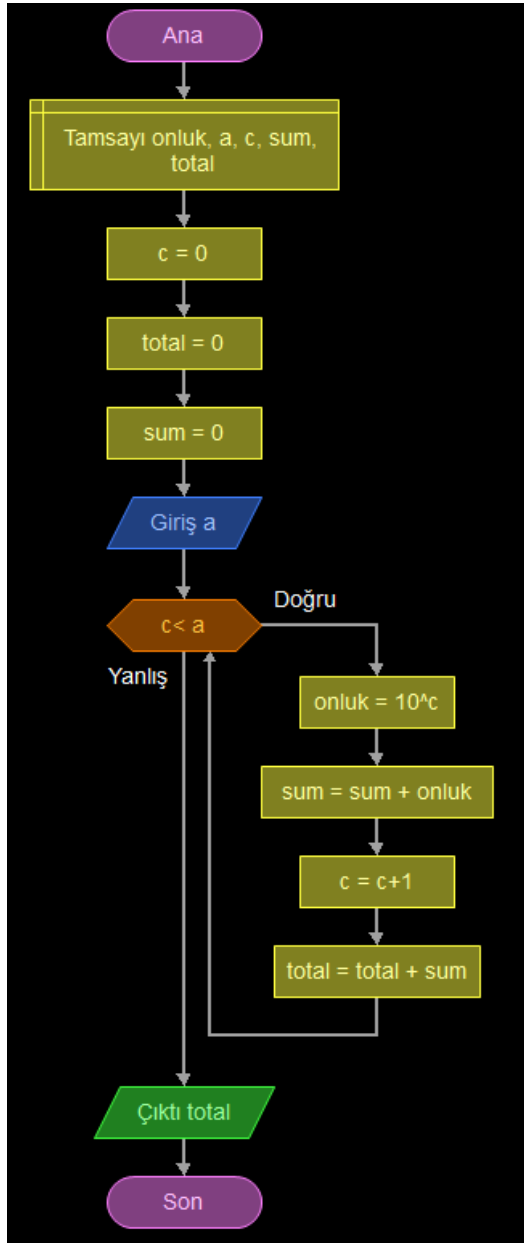
18.Draw a flow chart to print the Floyd's Triangle.
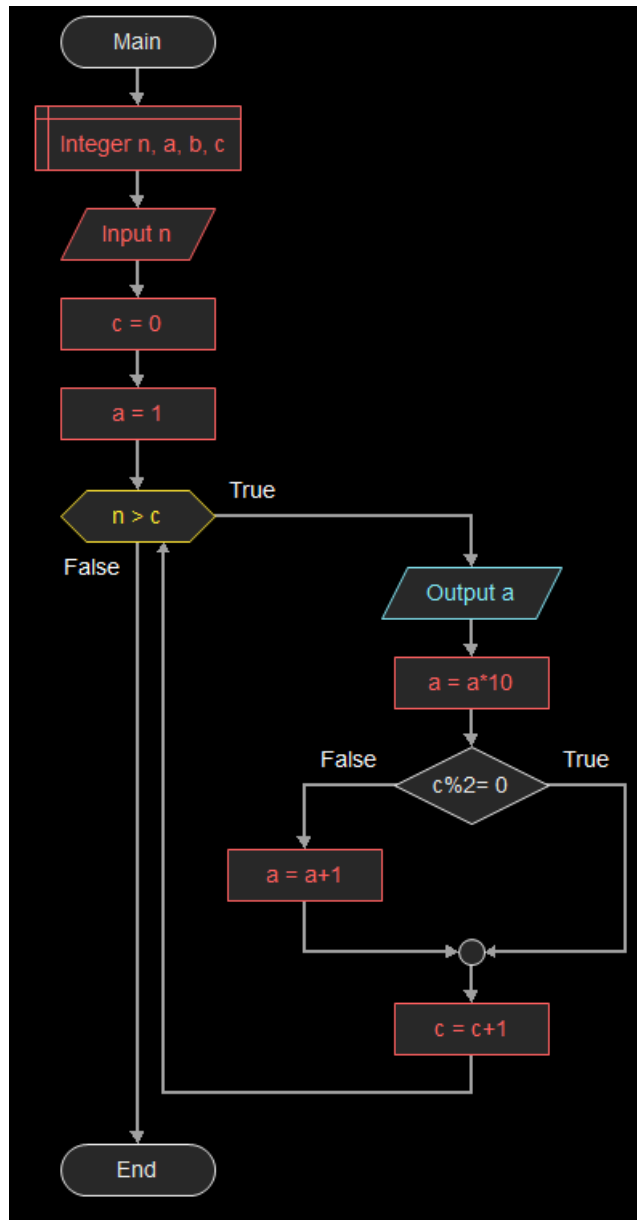
19.Draw a flow chart to display the sum of the series [1+x+x^2/2!+x^3/3!+....].
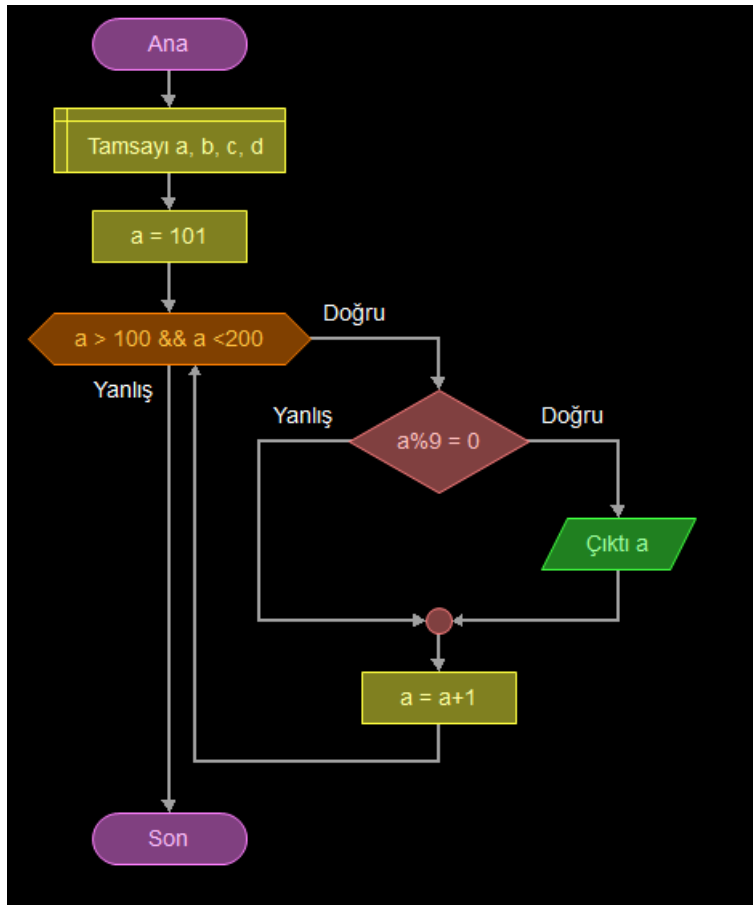
20.Draw a flow chart to find the sum of the series [x - x^3 + x^5 + ...].

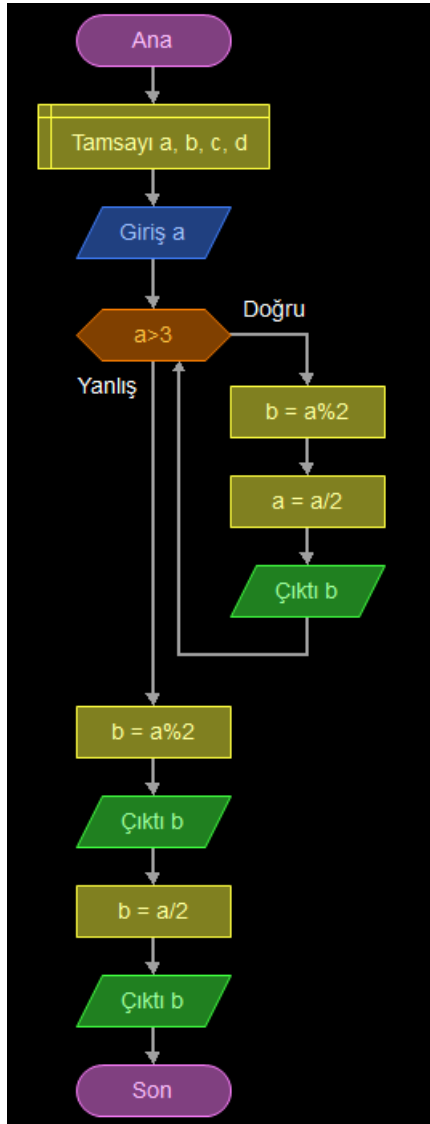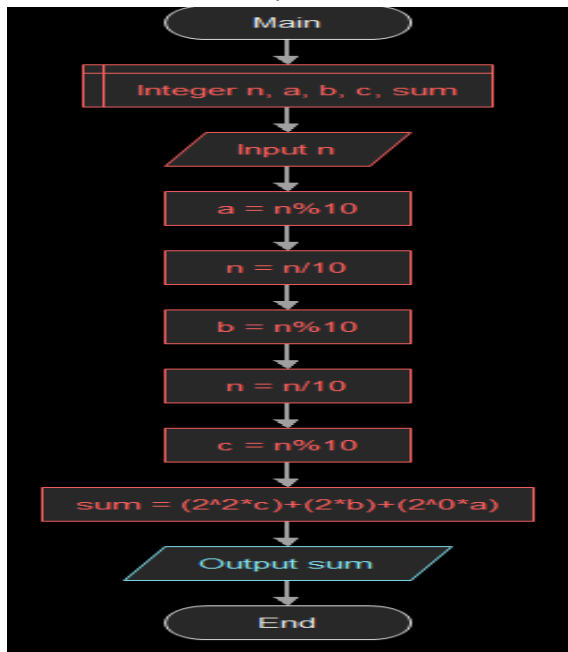21.Draw a flow chart to find the sum of the series 1 +11 + 111 + 1111 + .. n terms

22.Draw a flow chart to find the number and sum of all integer between 100 and 200 which are divisible by 9.

23.Draw a flow chart to convert a decimal number into binary without using an array.

24.Draw a flow chart to convert a binary number into a decimal number without using array, function and while loop.

```
                    ( Main )
                       |
          | Integer n, a, b, c, sum |
                       |
                   / Input n /
                       |
                 | a = n%10 |
                       |
                 | n = n/10 |
                       |
                 | b = n%10 |
                       |
                 | n = n/10 |
                       |
                 | c = n%10 |
                       |
     | sum = (2^2*c)+(2*b)+(2^0*a) |
                       |
               / Output sum /
                       |
                    ( End )
```

25.Draw a flow chart to print Pascal triangle upto n rows

```
        ( Main )
           |
   | Integer a, b, c, d, e |
           |
       / Input a /
           |
                     Next
   < b = 0 to a -1 >------
           |             |
        Done          | c = 1 |
                         |
                                 Next
                  < d = 0 to a-b-1 >------
                         |              |
                      Done        / Output " " /
                         |
                                 Next
                  < e = 0 to b >------
                         |           |
                      Done      / Output c /
                                     |
                              | c = c*(b-e)/(e+1) |
                         |
                  / Output "" /
           |
        ( End )
```