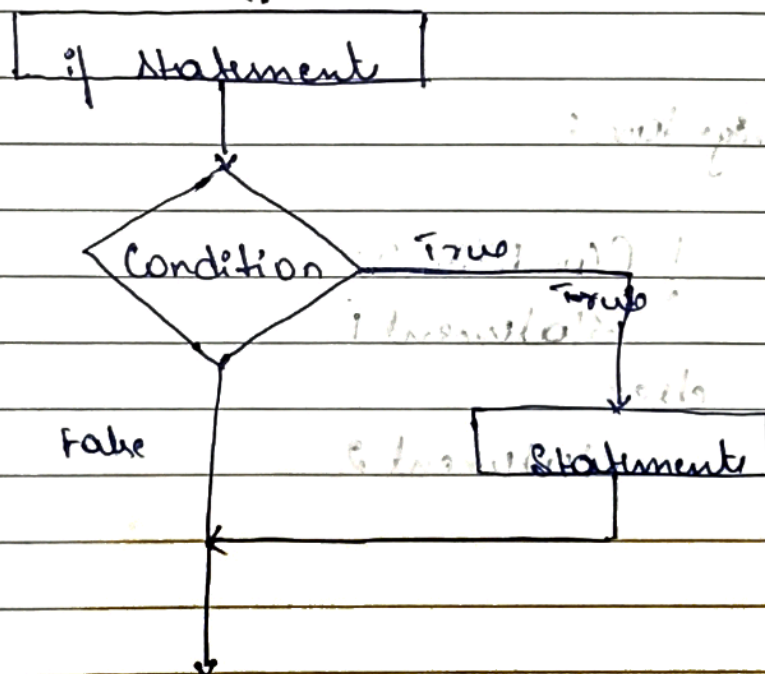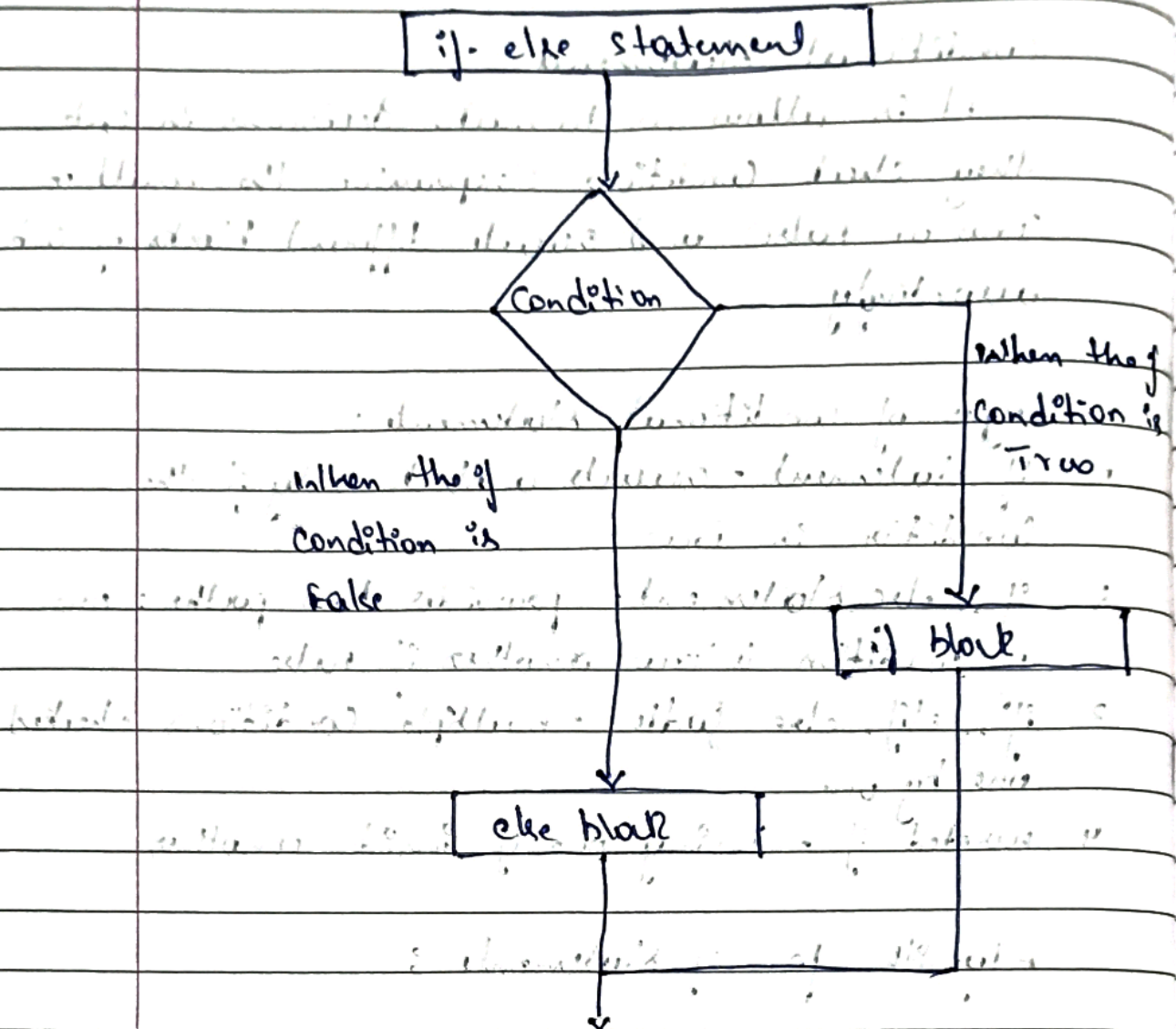8/9/25

-> Bitwis operators :-

Conditional Statements :
    it is allow us to make decisions in code.
they check conditions comprenion the result in
True or false) and exuut differunt blocks of code
accordingly.

Types of Conditional statments :
1. if Statement - exuuts a block only if the
   condition is True
2. if...else statment - provides two paths : ono
   if condition is True, another if false
3. if...elif...else ladder - multiple conditions checked
   one by one
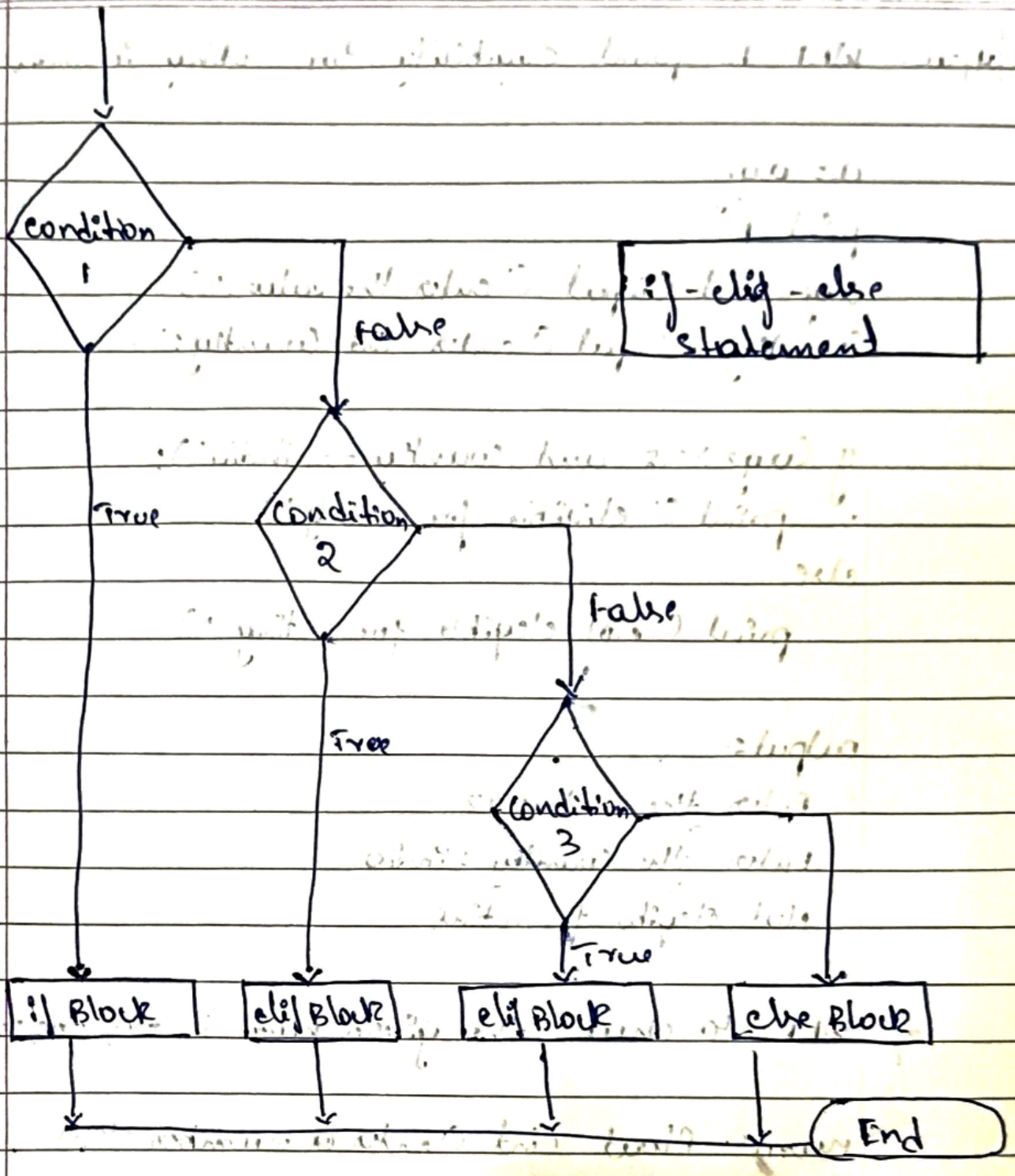4. nseted if - using one if inside another

Algorithm for if statments :-

Algorithm for if else statement :-

```
┌─────────────────────┐
│  if- else statement │
└─────────────────────┘
           │
           ▼
         ╱◇╲
       ╱     ╲
     ◇ Condition ◇ ──────────────┐
       ╲     ╱                    │   When the
         ╲ ╱                      │   condition is
          │                       │   True,
          │                       ▼
   When the if              ┌──────────┐
   condition is             │  if block │
   false                    └──────────┘
          │                      │
          ▼                      │
   ┌──────────┐                  │
   │ else block │ ───────────────┘
   └──────────┘
          │
          ▼
```

Syntax :-

```
if (Condition):
    Statement 1
else:
    Statement 2
```

```
                    ┌─────────┐
                    │Condition│
                    │    1    │
                    └─────────┘
```

if - elif - else
statement

Condition
1

False

Condition
2

True

False

Condition
3

True

True

if Block   elif Block   elif Block   else Block

End

Syntax:- for if..elif.. else ladder - multiple
conditions checked one by one

```
if (condition 1):
    Statements 1
else:
    if (condition 2):
        Statements 2          ---> Method ①
    else:
        if (condition 3):
            Statements 3
        else:
            Statements
```

Syntax:- if.. elif.. else ladder

```
if (condition 1):
    Statement 1
elif (condition 2):
    Statements 2.          ---> Method ②
elif (condition 3):
    Statements 3
else:
    Statements
```