Control Structures

By
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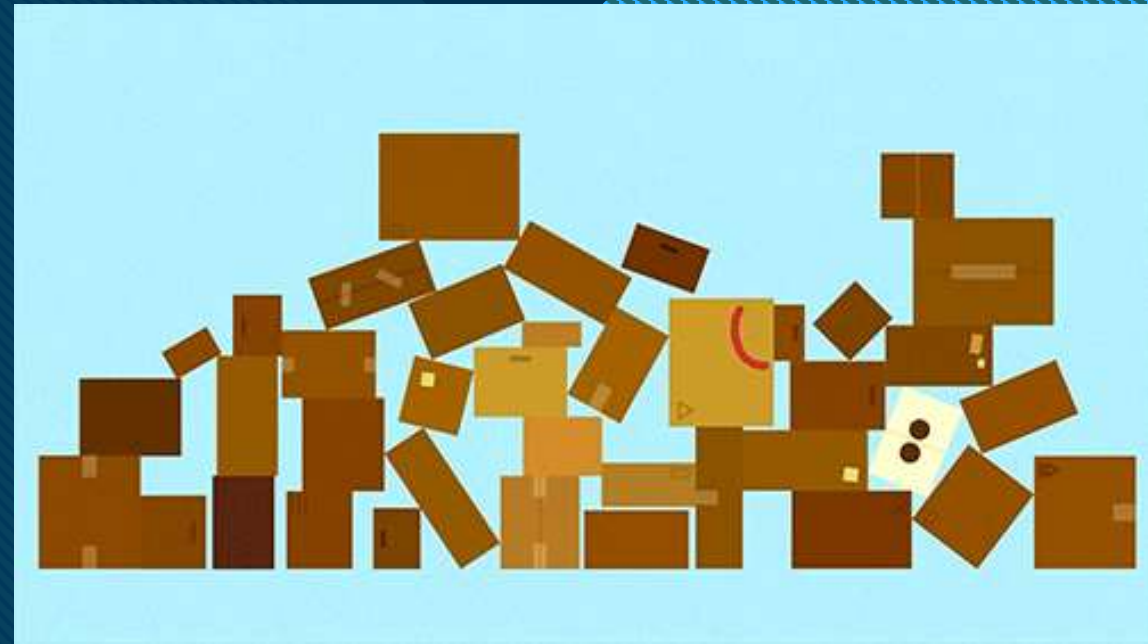Department of Computer Science & Engineering
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Algorithms Building Blocks

Sequencing, Selection, and Iteration

Building Blocks Contd.

- An **Action** is one or more instructions that the computer performs in sequential order (from first to last).

- A **Decision** is making a choice among several actions.

- A **Loop** is one or more instructions that the computer performs repeatedly.

Building Block	Common Name
Sequence	Action
Selection	Decision
Iteration	Repetition or Loop

Table 1

The Three Basic Control Structures
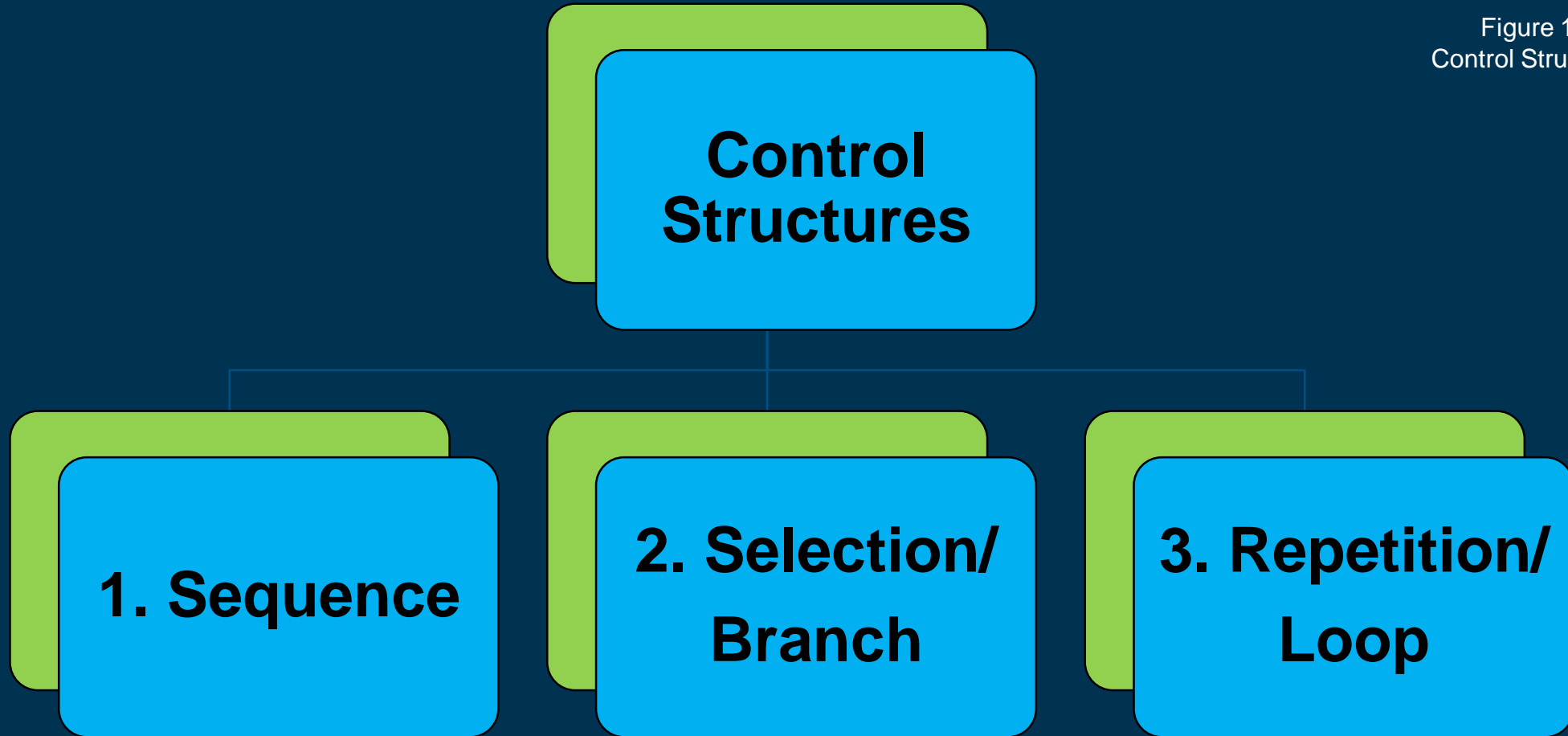
Figure 1 :
Control Structures

Control Structures

1. Sequence

2. Selection/ Branch

3. Repetition/ Loop

4

Control Flow
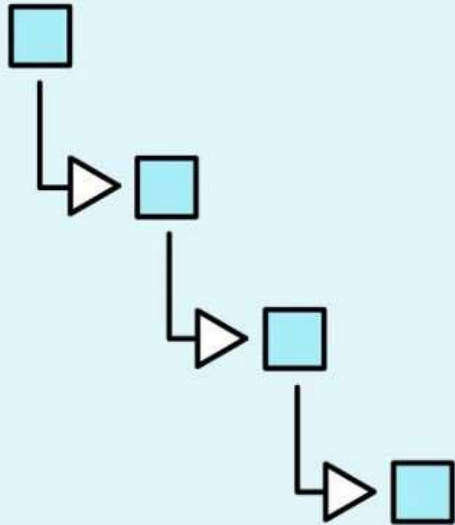
Figure 2 : Building Blocks
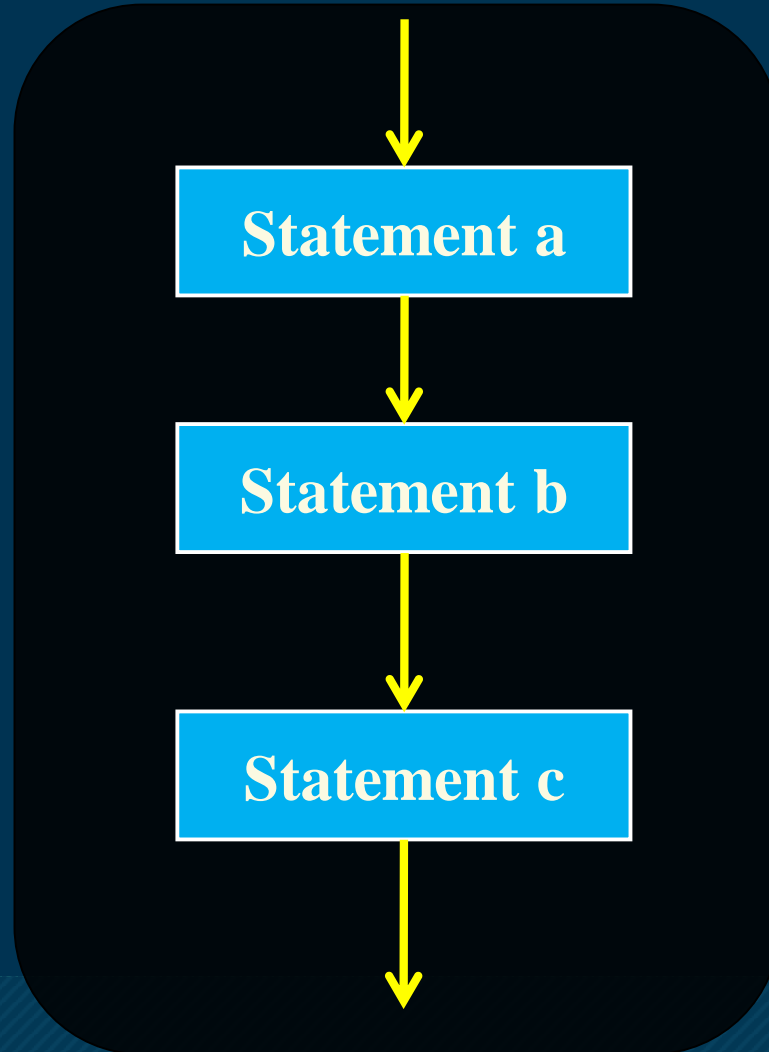
1. Sequence

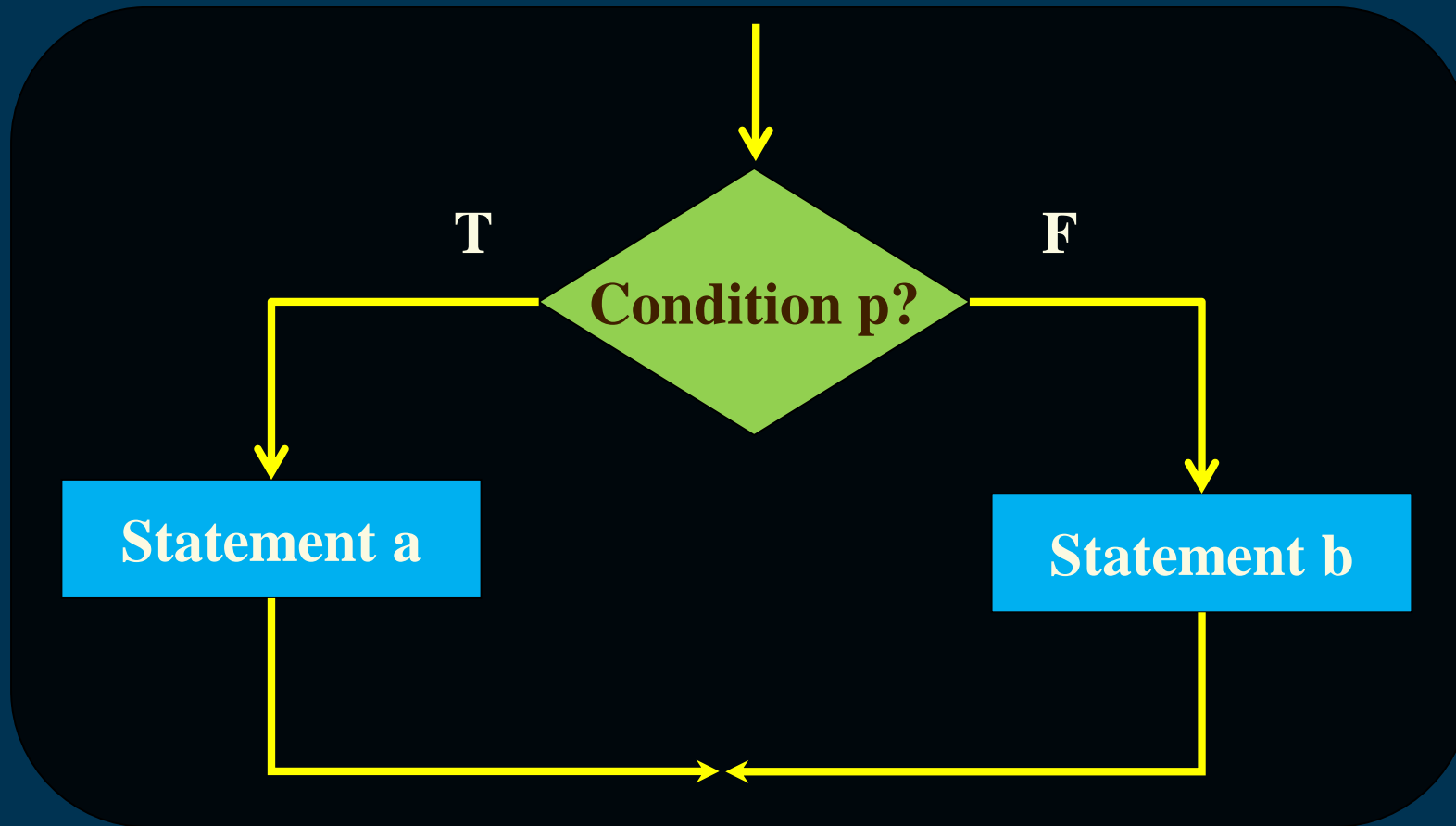Figure 3: Sequence

2. Selection

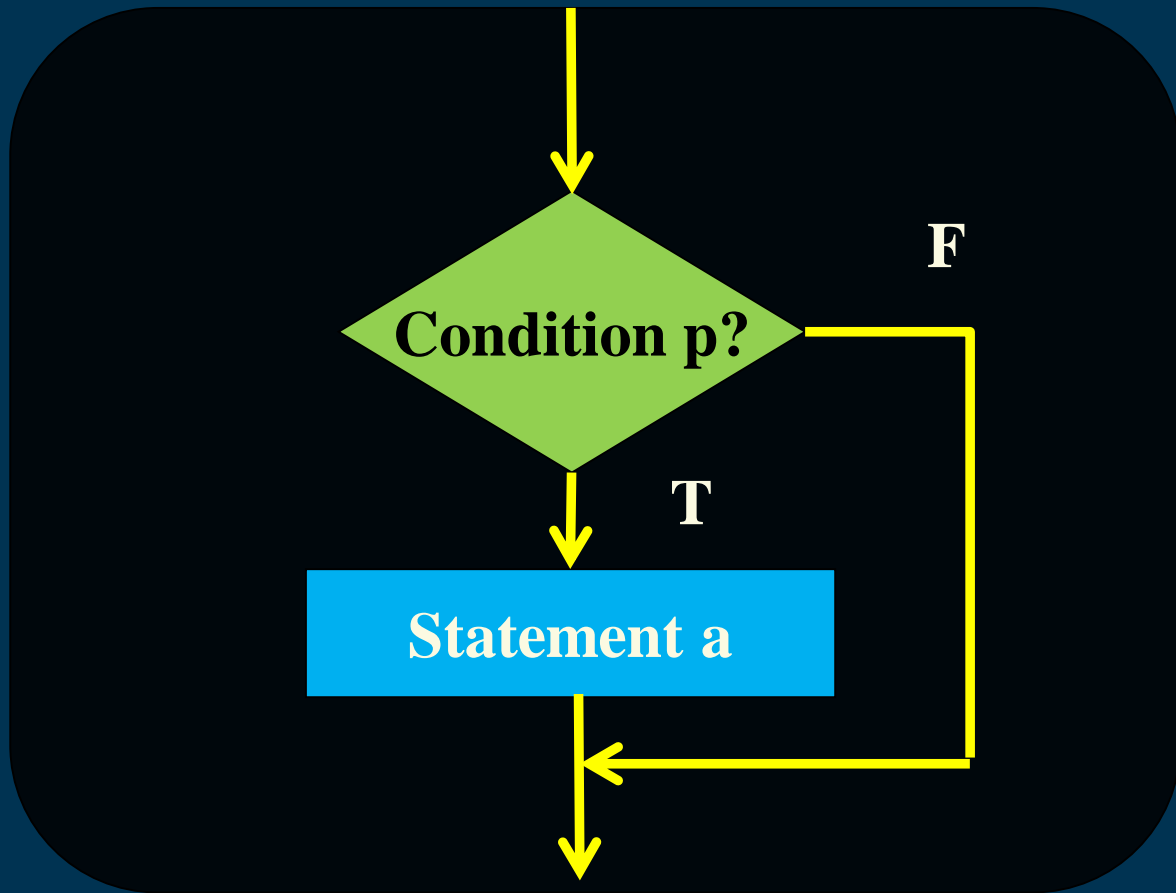Figure 4: Selection (1)

Selection Contd.

Figure 5: Selection (2)
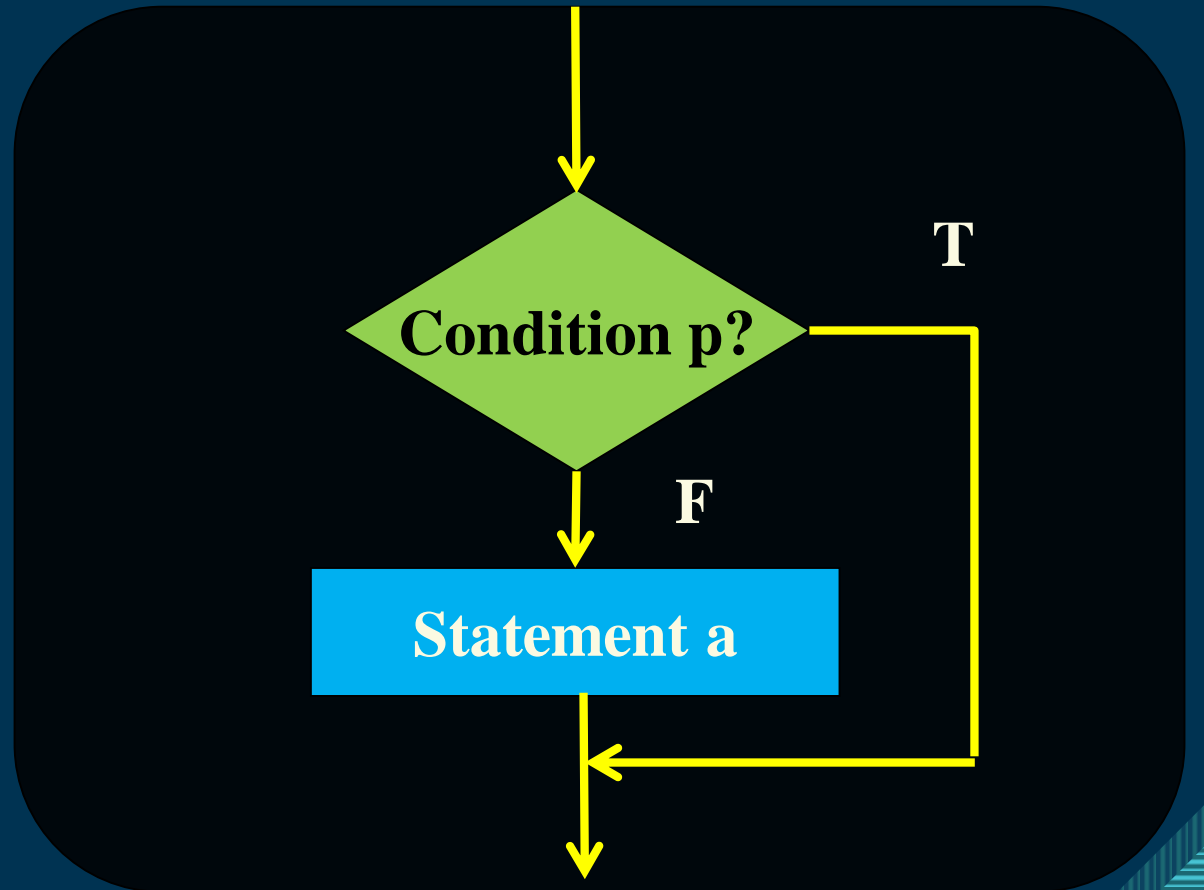
Figure 6: Selection (3)

3. Repetition
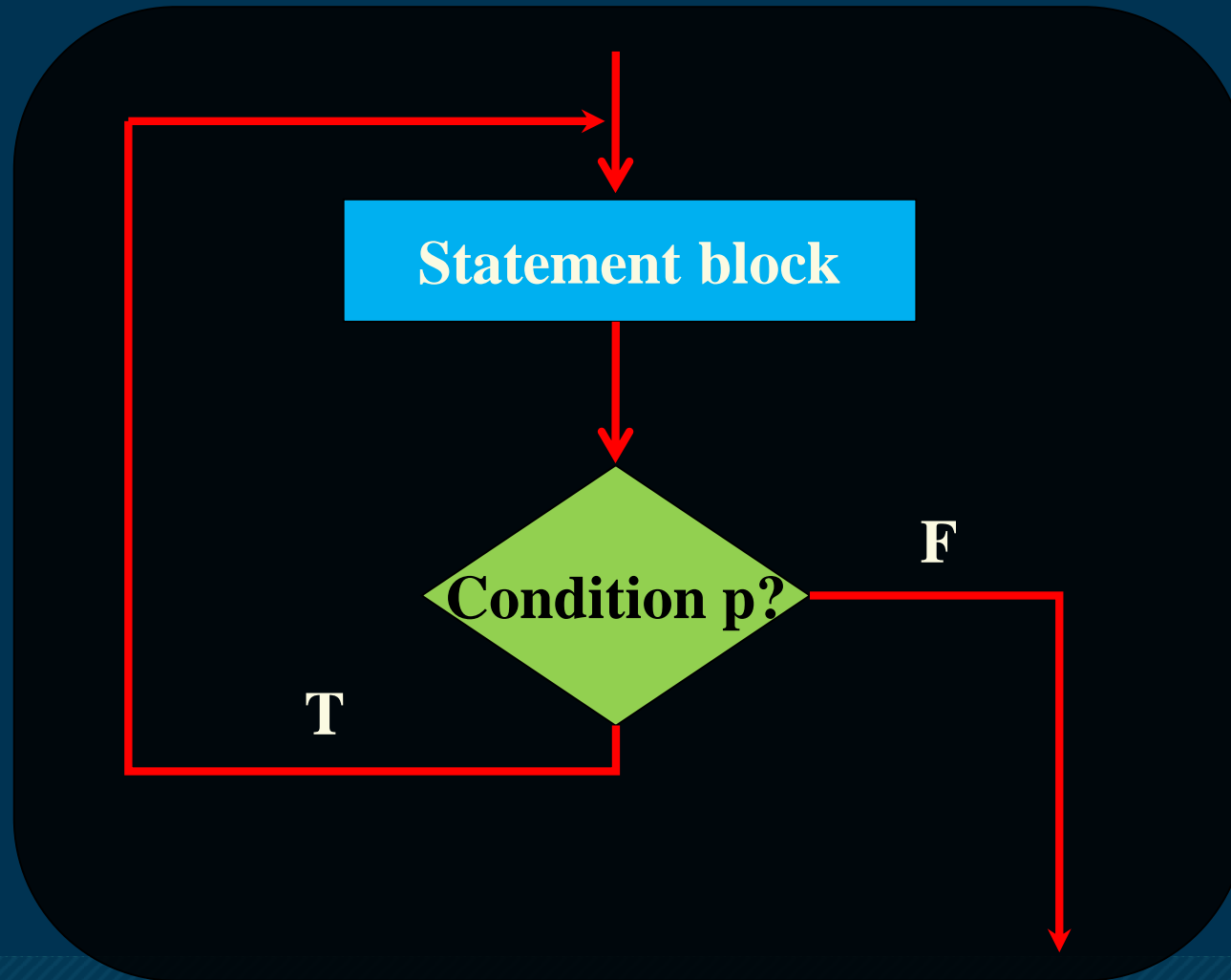
Figure 7: Repetition

Control Structures Contd.

Control Structures

1. Sequence

2. Selection/ Branch

3. Repetition/ Loop

Conditional

Unconditional

| if | if-else | Nested if | if-else ladder | switch | goto | break | continue | return |
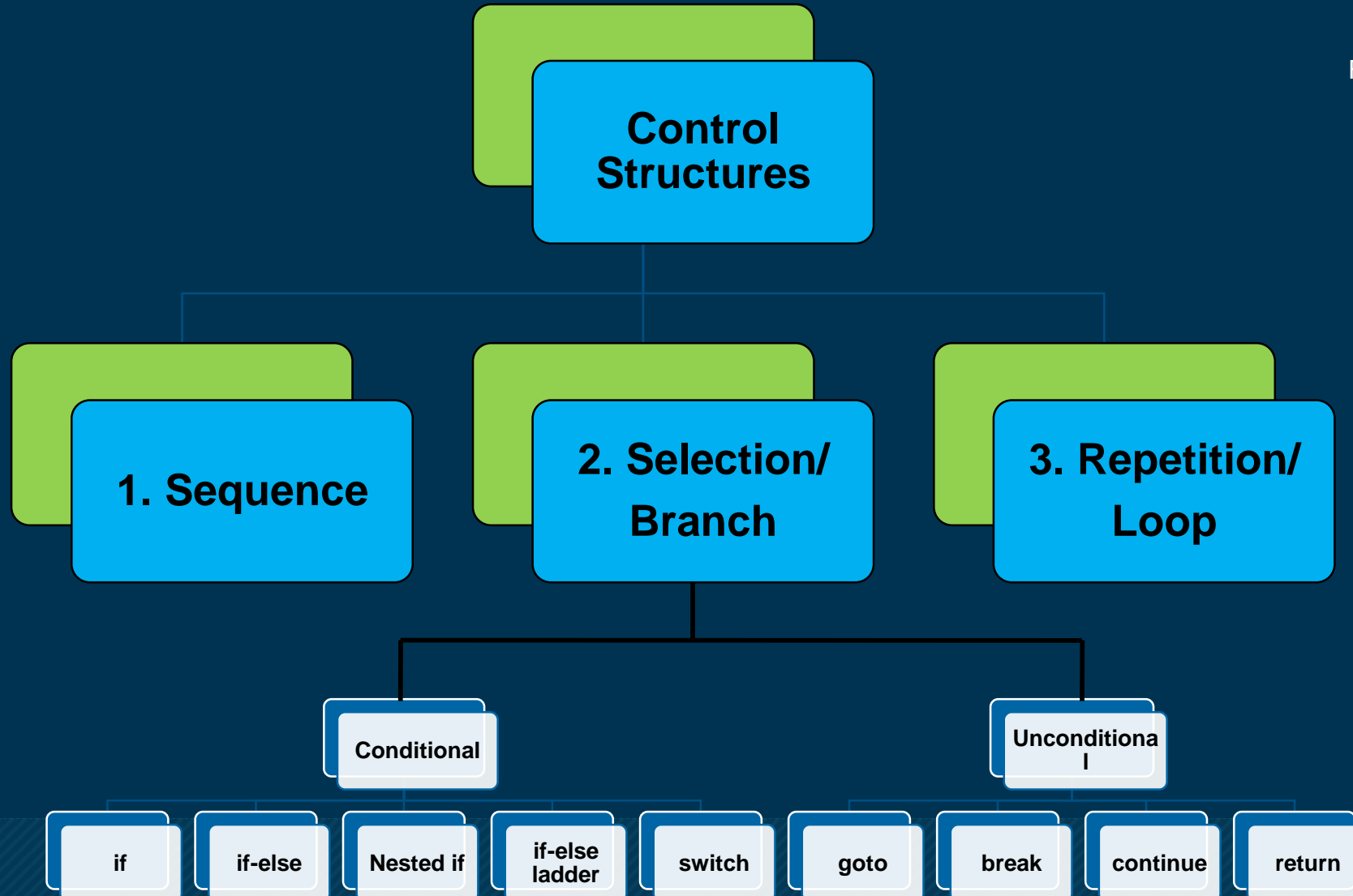
Control Structures Contd.
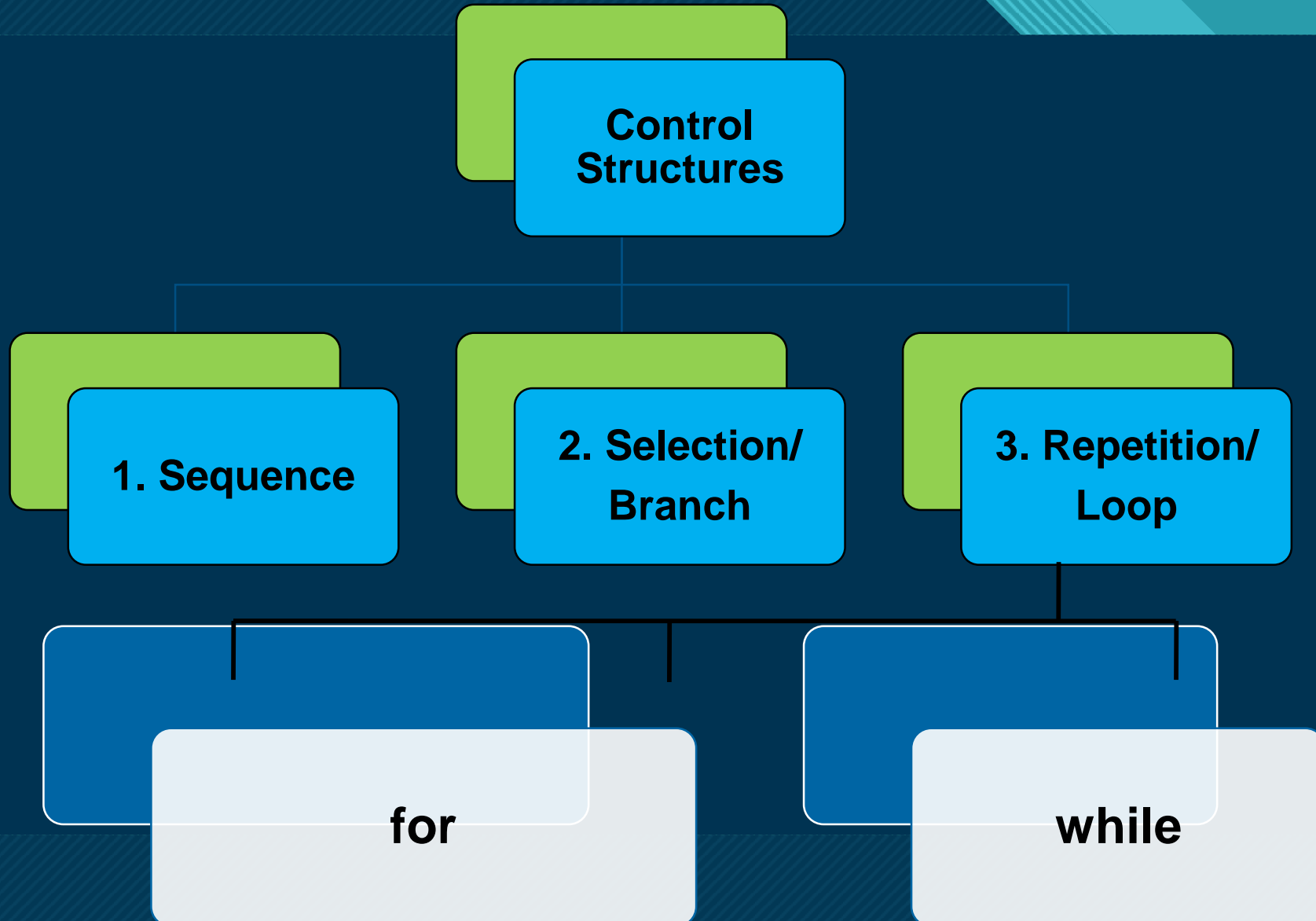
Figure 9: Repetition Division

IF Statement in Python

Syntax

Flowchart of if Statement in Python Programming

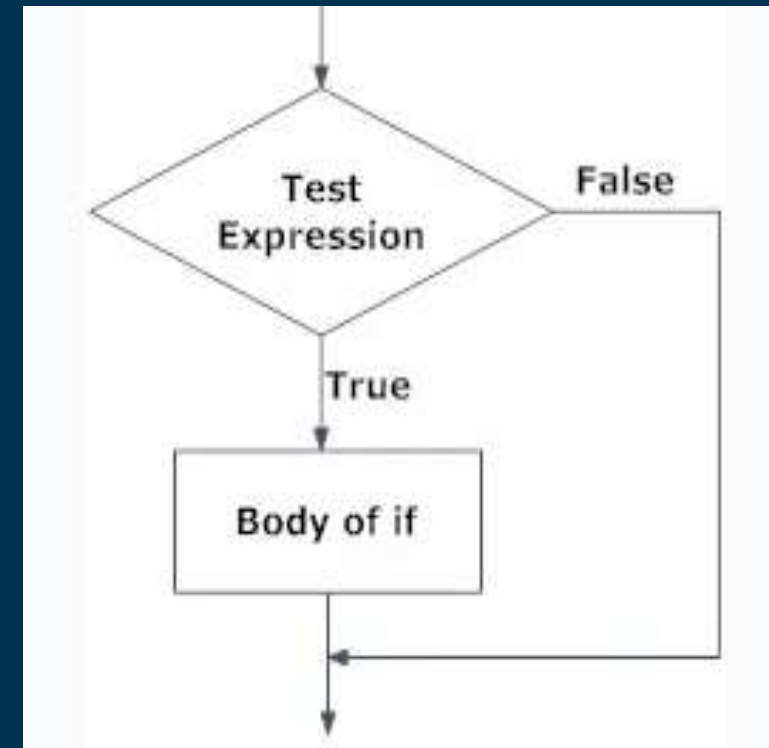If condition :

    Statements

    ….

Figure 10

IF- Else Statement in Python

Syntax

If condition :

    Statements 1

    ….

else :

    Statements 2

    ….

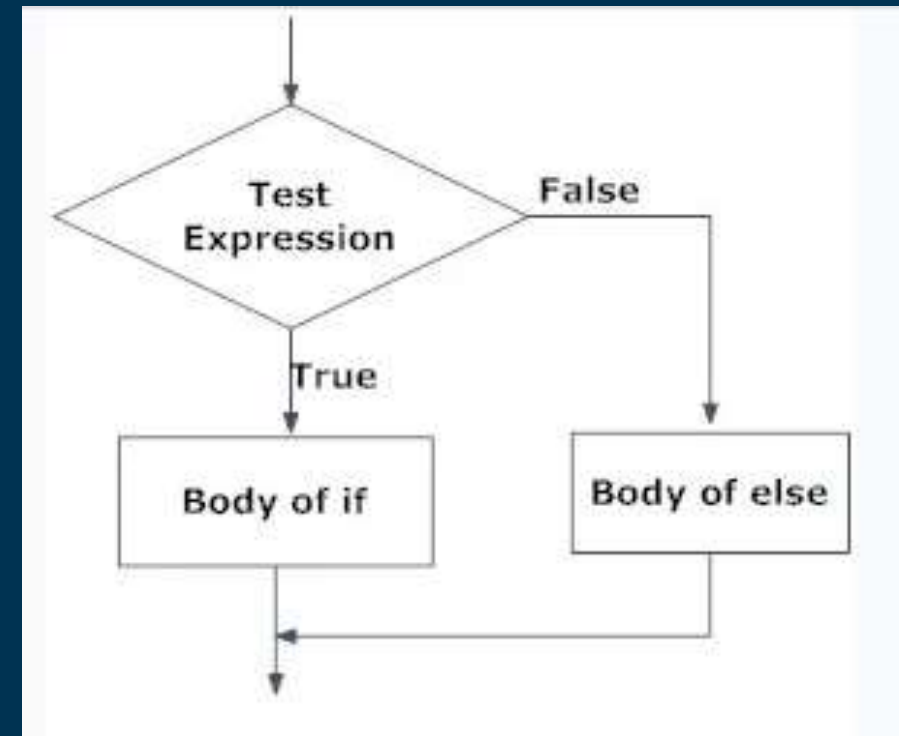## Flowchart of if…else Statement in Python Programming

Figure 11

Python if...elif...else Statement

Syntax

If condition1 :

    Statements 1

elif condition2 :

    Statements 2

elif condition3 :

    Statements 3

else :

    Statements 4

Flowchart of if...elif...else Statement in Python Programming

Figure 12

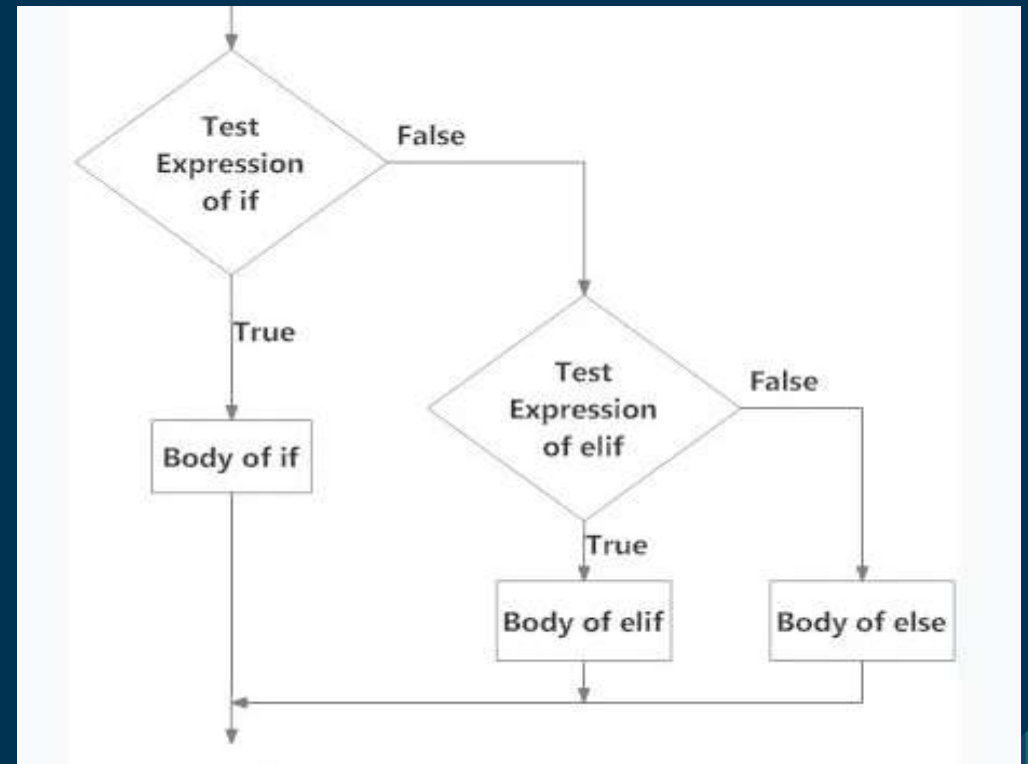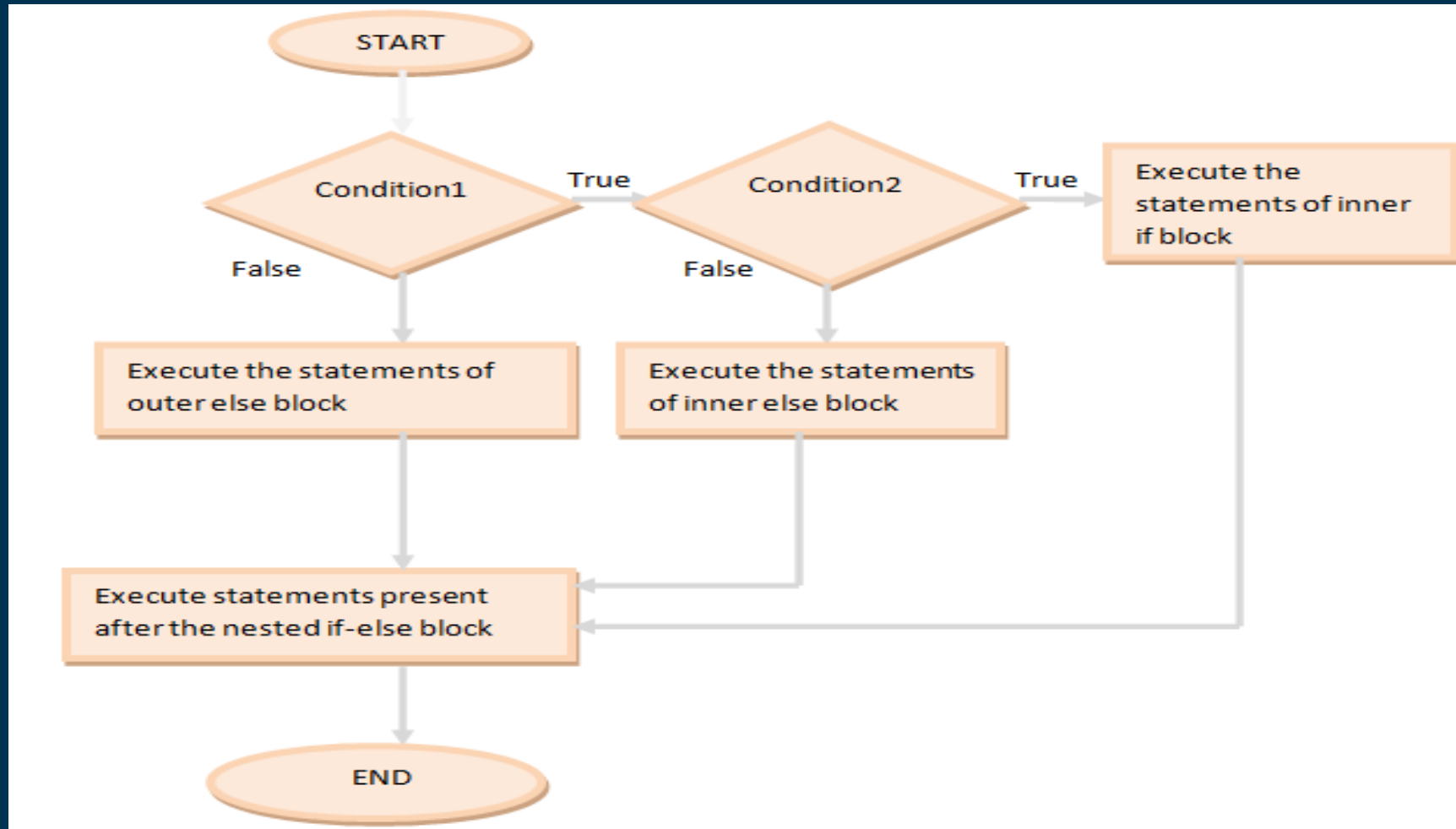# Nested IF- Else Statement
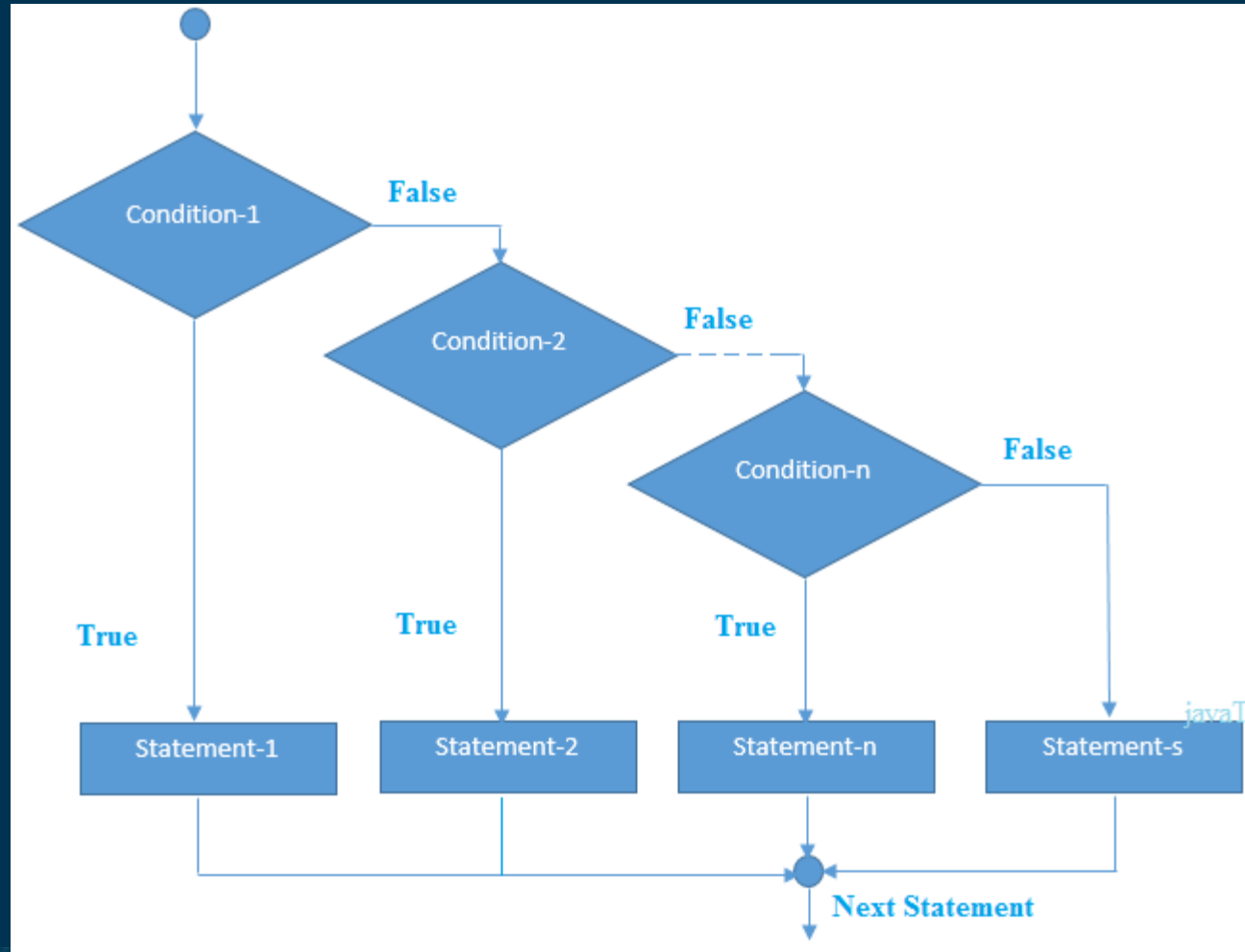

Figure 13

If-Else Ladder

Figure 14: If Else Ladder

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Indentation is the only way to figure out the level of nesting.