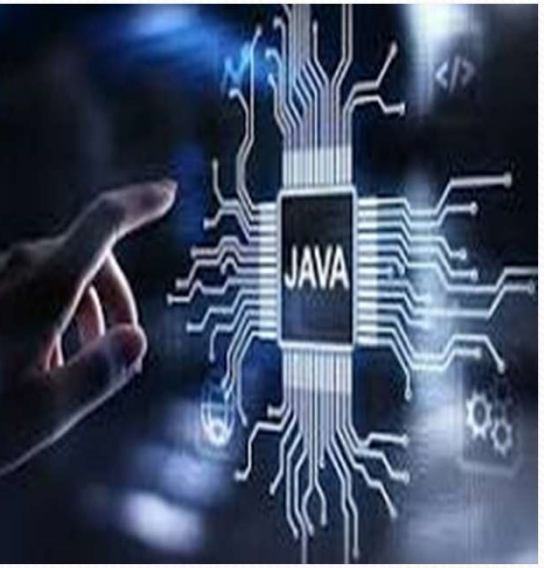
SNS COLLEGE OF TECHNOLOGY

An Autonomous Institution
Coimbatore-35

Department of Computer Science & Engineerin

23ITT202 – Object Oriented Programming

II B.E CSE/ III SEMESTER



UNIT II :Control Statements and Constructo

Topic : Control Structures in Java

Revision I unit sample programs

Java Data Types – Example Program

```
class DataTypesExample {
  public static void main(String[] args) {
        // Primitive Data Types
        int age = 20;
        float marks = 85.5;
        char grade = 'A';
        boolean passed = true;

        // Non-Primitive Data Type
       String name = "Saran";

        System.out.println("Name: " + name);
        System.out.println("Age: " + age);
        System.out.println("Marks: " + marks);
        System.out.println("Grade: " + grade);
        System.out.println("Passed: " + passed);
}}
```

```
Name: Saran
Age: 20
Marks: 85.5
Grade: A
Passed: true
```

Sample program variables and operators

```
class SimpleCalculations {
    public static void main(String[] args) {

        int a = 20, b = 10;

        System.out.println("Addition = " + (a + b));
        System.out.println("Subtraction = " + (a - b));
        System.out.println("Multiplication = " + (a * b));
        System.out.println("Division = " + (a / b));
        System.out.println("Is a greater than b? " + (a > b));
    }
}
```

```
Addition = 30
Subtraction = 10
Multiplication = 200
Division = 2
Is a greater than b? true
```

Command line arguments:

```
class CLine1
{ public static void main (String args[])
{
int a = Integer.parseInt Integer.parseInt(args[0]);
int b = Integer.parseInt(args[1]);
int c = a + b;      // addition
System .out. println(" sum of the "+ a + " and " +
b+ " is :"+ c); } /* This is output of the program */
```

Compile this prog as

javac CLine1.java

Run this prog as

java CLine1 20 40

Output:

Sum of the a and b is 60

Topics for Discussion

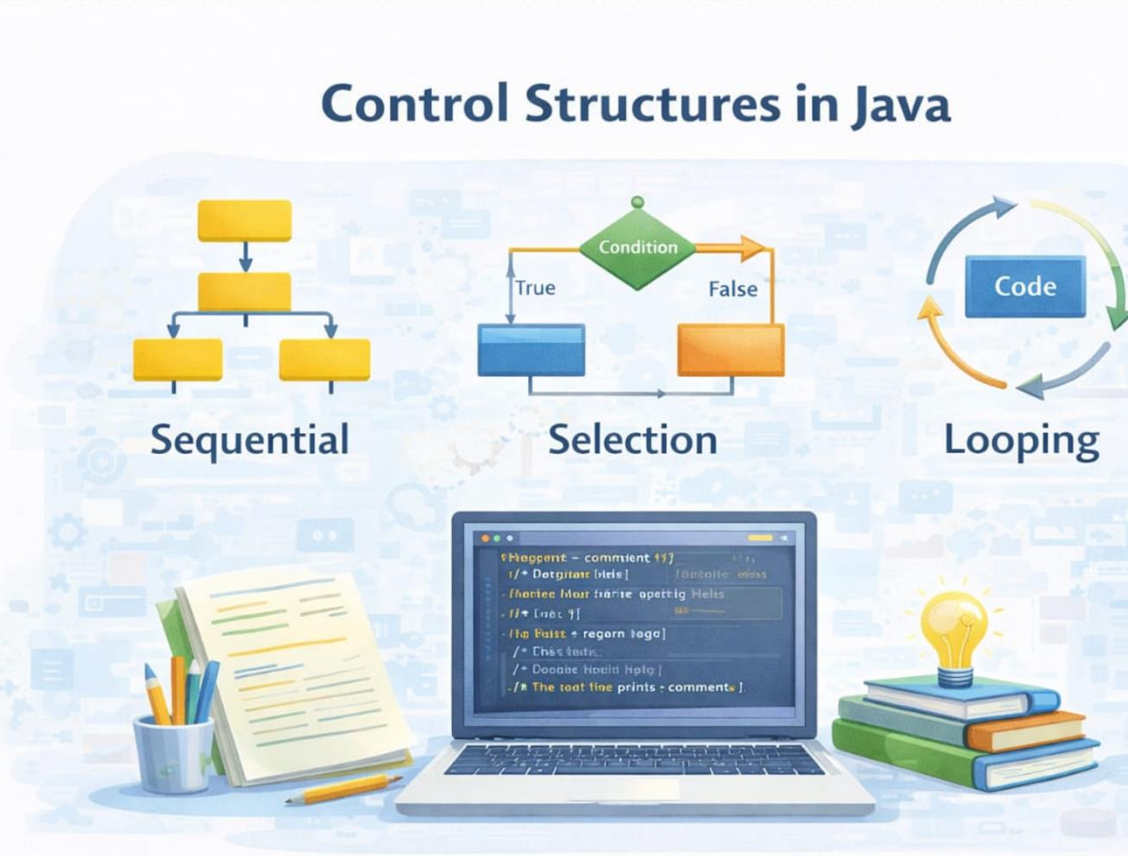
- ✓ What are Control Structures?
- ✓ Need for Control Structures.
- ✓ Types of Control Structures.
- ✓ Examples.
- ✓ Assignment.

WHAT ARE CONTROL STRUCTURES?

Control structures are statements that control the flow of execution in a Java program.

They decide which statements are executed and how many times.

They allow decision making and repetition in programs



Why Control Structures Are Important

- They help programs make decisions based on conditions.
- They reduce repetition of code.
- They improve efficiency and readability of programs.
- They are essential for solving real-world problems

Types of Control Structures In Java

Java has three types of control structures:

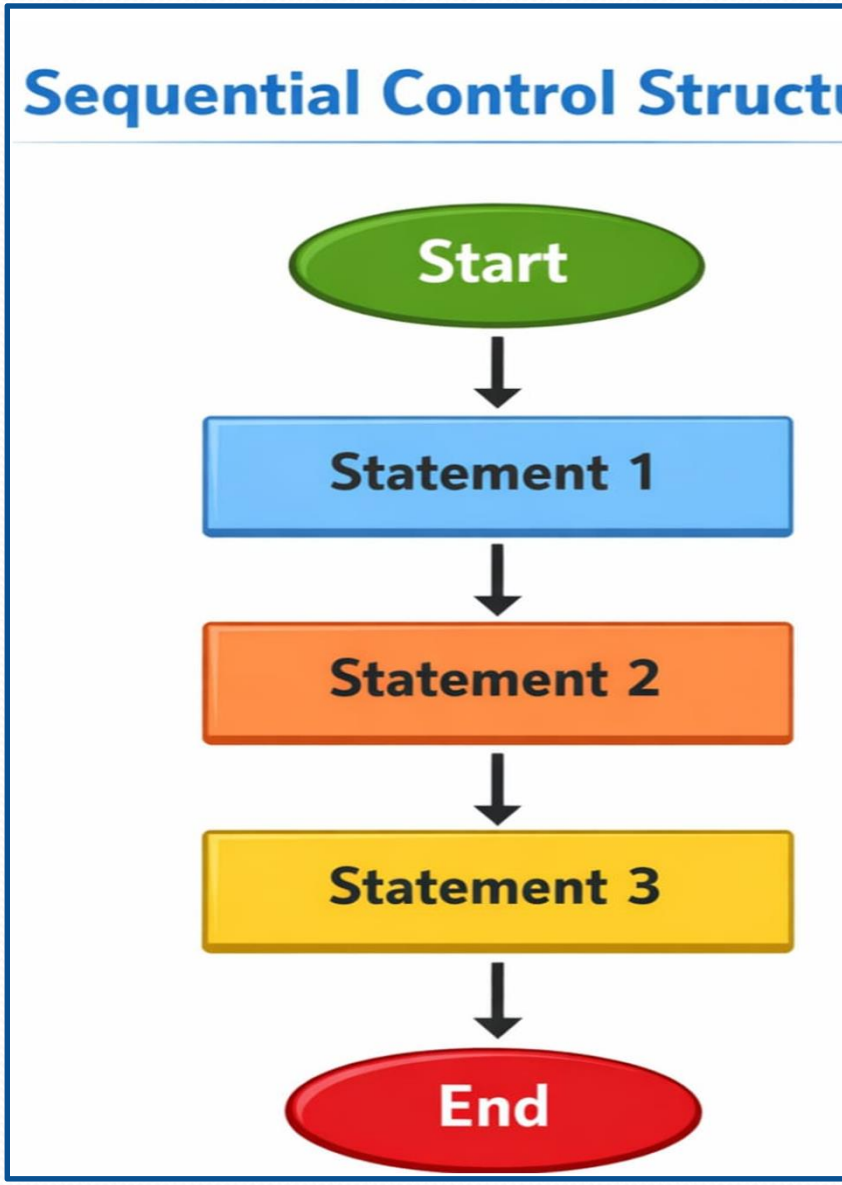
1. Sequential Control Structure
2. Selection (Decision-Making) Control Structure
3. Looping (Iteration) Control Structure

quential Control Structure

Statements are executed one after another.

No condition or repetition is involved.

This is the default execution flow in Java



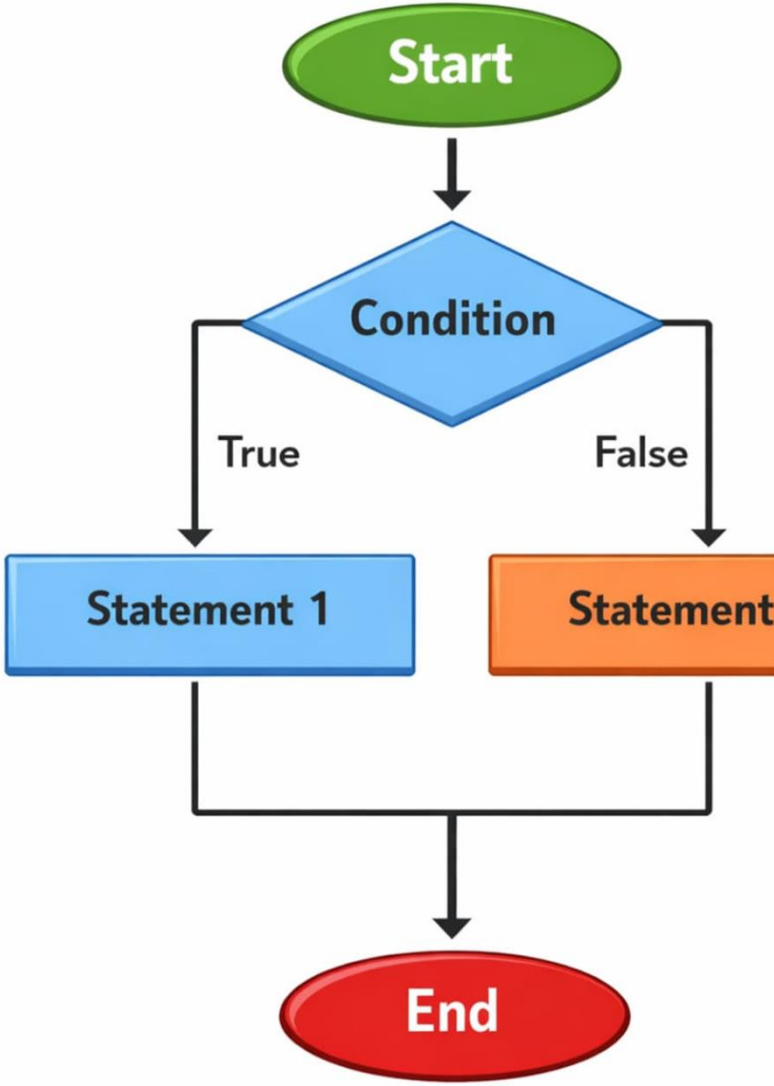
lection Control Structure

Used to make decisions based on conditions.

Executes different blocks of code for different conditions

Examples:

1. If
2. if–else
3. switch



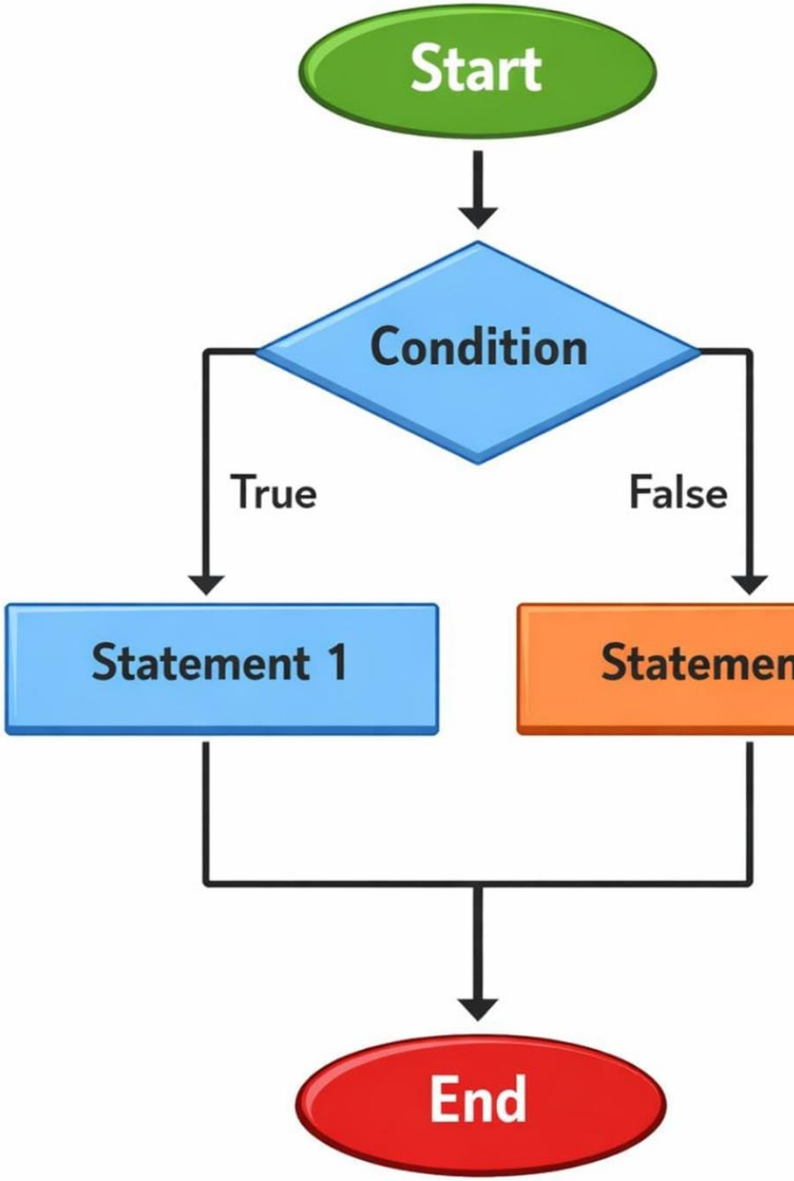
oping Control Structure

Used to repeat a block of code multiple times.

Executes until the given condition becomes false

xamples:

1. for loop
2. while loop
3. do-while loop



Program:

```
import java.io.*;
import java.util.*;
      /**
      *To check the given number is
      *palindrome or not
      */
public class palin
{
public static void main (String[] args)
{
int num, reverse = 0, rem, temp;
Scanner sc= new Scanner(System.in);
/* To get input through input devices
    Like keyboard */
System.out.println ("Enter the number");
num=sc.nextInt();
temp = num;
while(temp != 0)
{
                              //loop to find reverse numb
 rem = temp % 10;
reverse = reverse * 10 + rem;
temp /= 10;
};

if (num == reverse)
System.out.println (num + " is Palindrome");
else
System.out.println (num + " is not Palindrome");
}
}
```

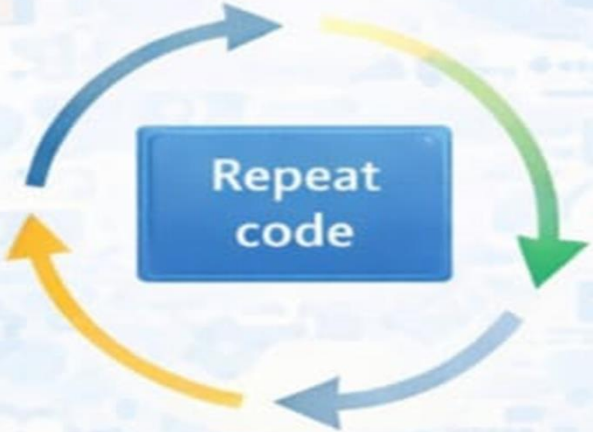
Output:

```
E:\pgm>javac palin.java
E:\pgm>java pain
Enter the number
1551
1551 is Palindrome
```

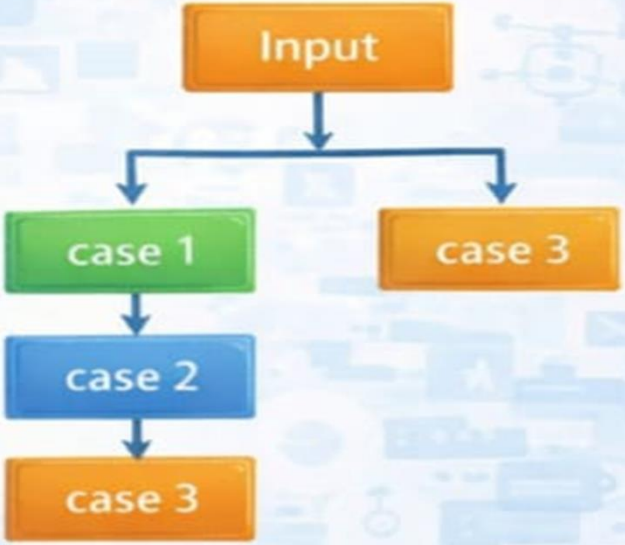
Simple Examples (*Concept*)

if → decision making

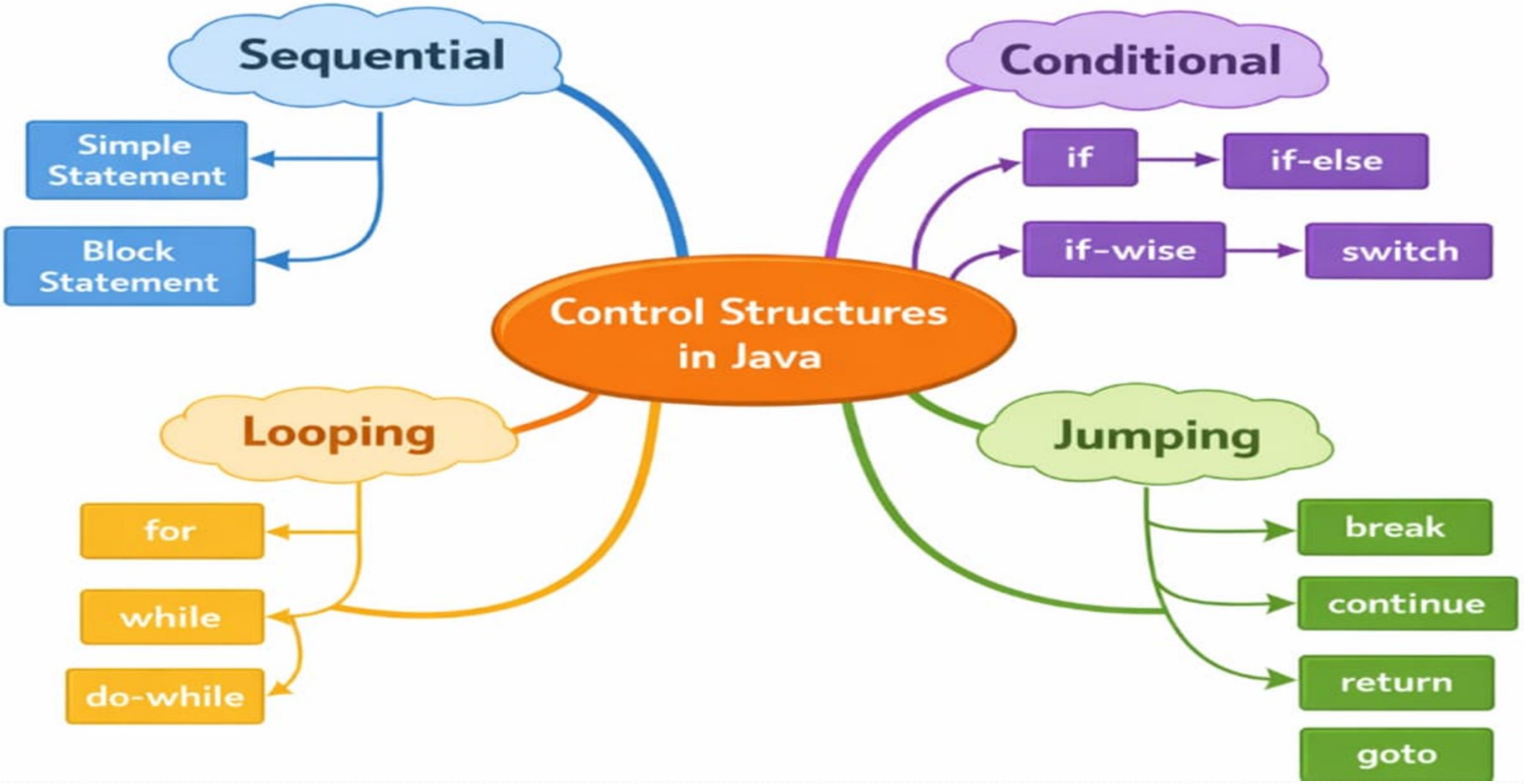
for → repetition



switch → multiple choices



Mind Map


Sequential
Simple Statement
Block Statement
Conditional
if
if-else
if-wise
switch
Control Structures in Java
Looping
for
while
do-while
Jumping
break
continue
return
goto

Assessment

1. Control structures control the __ of execution.

Answer: flow

2. Choose the correct answer.

Which is a looping statement?

a) If
b) Switch
c) For
d) Break

3. Why are control structures important?

Answer : Control structures are important because they help in decision making, reduce code repetition, a

improve program efficiency.

References

- https://docs.oracle.com/javase/tutorial/java/nutsandbolts/flow.html
- https://www.javatpoint.com/control-statements-in-java
- https://www.geeksforgeeks.org/control-statements-in-java/


Thank You 😊