

Control Statement

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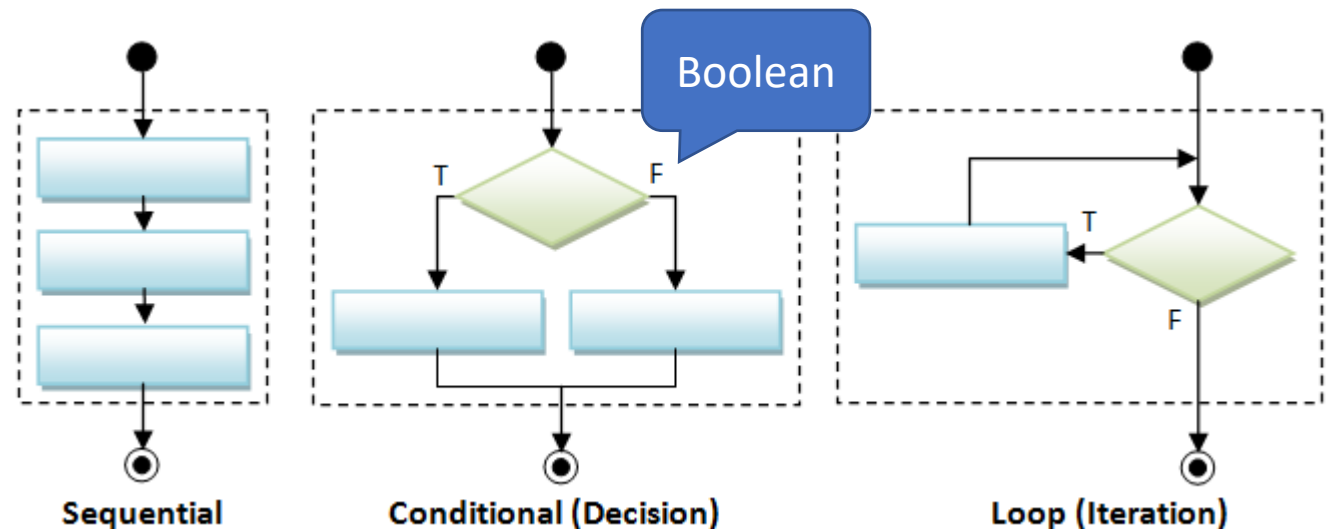
Learning Object

➤ Control Structures

1. Sequence structure
2. Selection structure
3. Repetition structure

Control Structures

- Control Structures can change flow of Java Program
 - ❑ It is framework of Programming (c.f Data type – material)
 - ❖ Like rebar for concrete foundation for house
- All programs can be written in terms of only three control structures:
 - ❑ Sequence structure
 - ❑ Selection structure
 - ❑ Repetition structure
- Use Boolean expression to control the flow



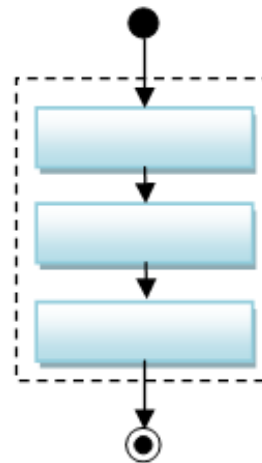
Boolean expression

- Control Statement use the boolean expression to control the flow of program
- Boolean expression: is a **conditional expression** that is evaluated to either **true** or **false**.
- Conditional expression: is a **three part expression**
 - ❑ **Syntax is:**
condition ? expression1: expression2
 - ❑ if the condition is **true**, *expression1* is evaluated
 - ❑ if it is **false** *expression2* is evaluated
- Boolean expression use **the Comparison operators** to be evaluated to either true or false

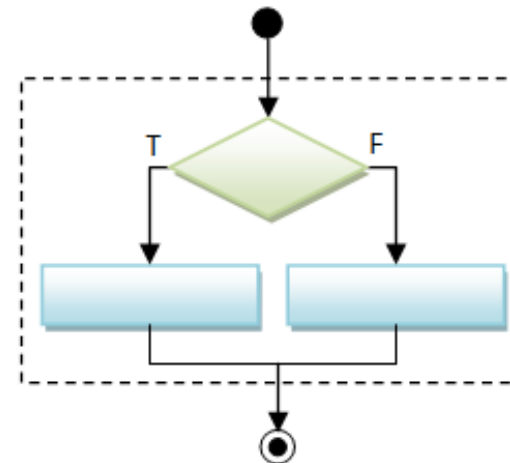
Sequence Structure

- Sequential execution: Statements in a program execute one after the other in the order in which they are written
 - ❑ So far, we only have used a sequential execution
 - ❑ Process line by line
- Example:

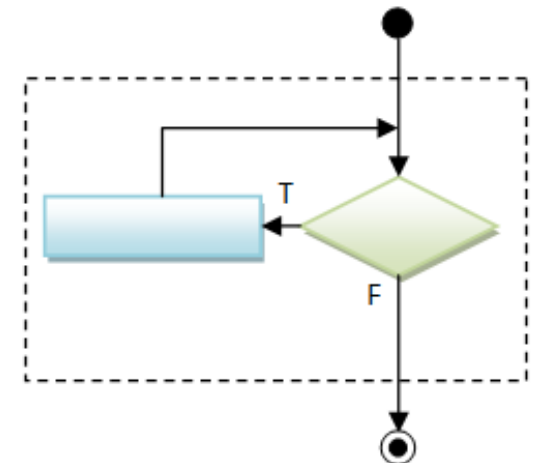
```
int loanAmount; //Declare  
loanAmount = 0; // Initialize  
System.out.println(loanAmount);  
loanAmount = 1000; //reassign  
System.out.println(loanAmount);  
loanAmount = 99; //reassign  
System.out.println(loanAmount);
```



Sequential



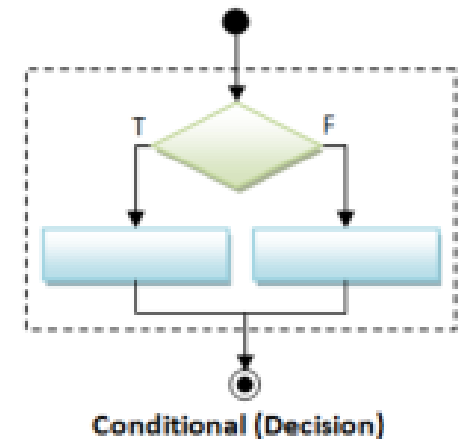
Conditional (Decision)



Loop (Iteration)

Selection Control Structure

- The **selection structure** specifies alternate courses of program flow, creating a junction in your program (like a fork in your road).
- The single-selection structure (**if**)
 - Perform an action if a condition is true; skip it, if false.
- The double-selection structure (**if ... else**)
 - Perform an action if a condition is true and perform a different action if the condition is false.
- The multiple-selection structure (**switch**)
 - Perform one of several actions based on the value of an expression.



Repetition Statements

➤ Repetition statements is a further common facet of everyday life and object behavior:

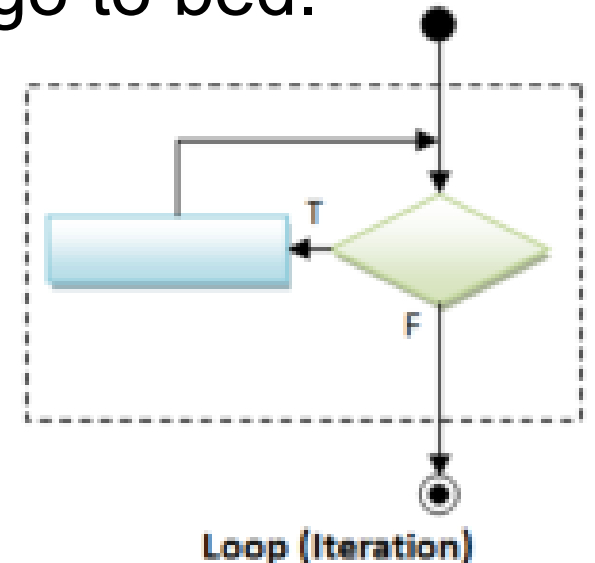
- ❑ Repeat every day:

 - ❖ Get up; have breakfast; go off to work; have lunch; do more work; have an evening meal; relax; go to bed.

- ❑ Repeat same work

 - ❖ Conveyor belt

- ❑ While loop, for loop, for each loop



Summary

1. sequence control structure
2. selection structure
3. repetition structure

