

Overview

Core Java for Selenium Automation Beginners –I



Variables and Data Types for selenium

Definition of variables , Primitive and Non Primitive Data Types , Data Type Range etc

Operators in Java for selenium

Arithmetic, Logical , Comparison operators etc

Control flow or conditional statements

If , nested if , if else , if else if , switch statements etc.

Loop Statements

While , do while , for loops

Arrays

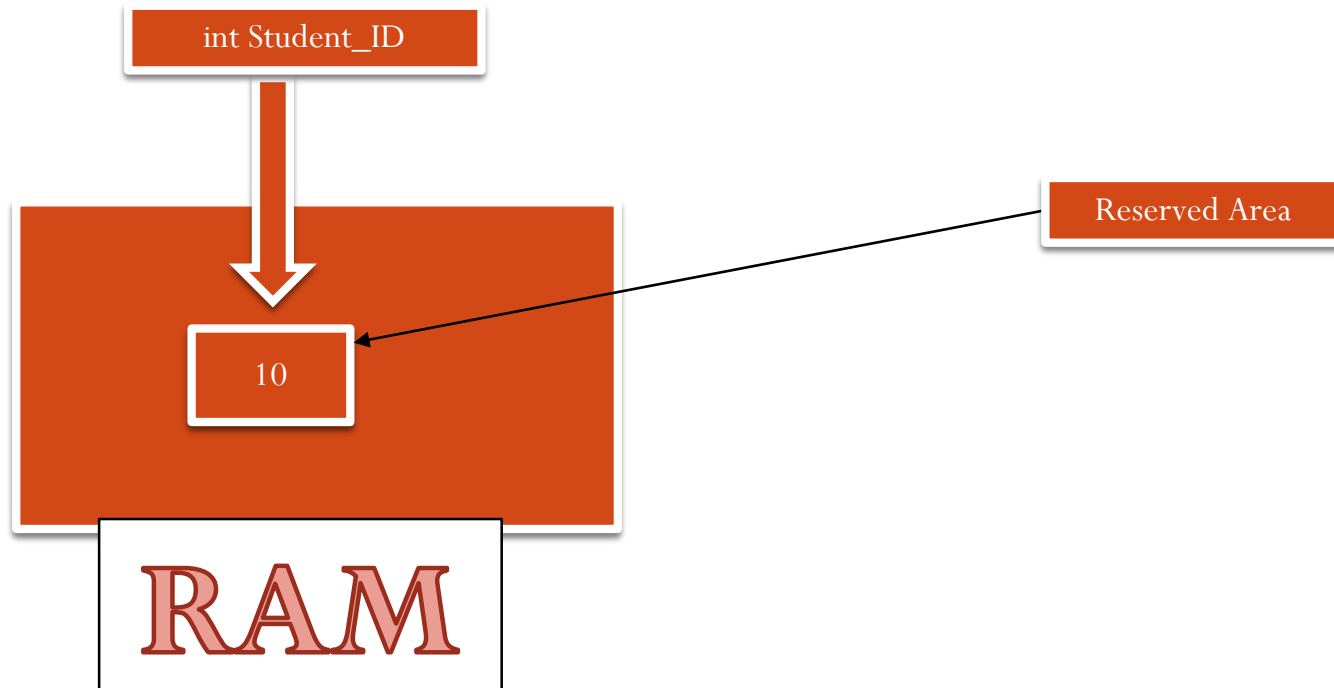
Definition of Array , Multidimensional Arrays

variables and Data Types in Java for selenium



Variables

- Variable is name given to reserved memory location
- Variable value can be changed



Variables

Declaration and Definition

```
public class Demo1 {  
    public static void main(String[] args) {  
        int i;  
        i=10;  
    }  
}
```

Declaration

Definition

```
1 package com.qa.variableDemo;  
2  
3 public class Demo1 {  
4  
5     public static void main(String[] args) {  
6  
7         int i = 10;  
8  
9     }  
10 }
```

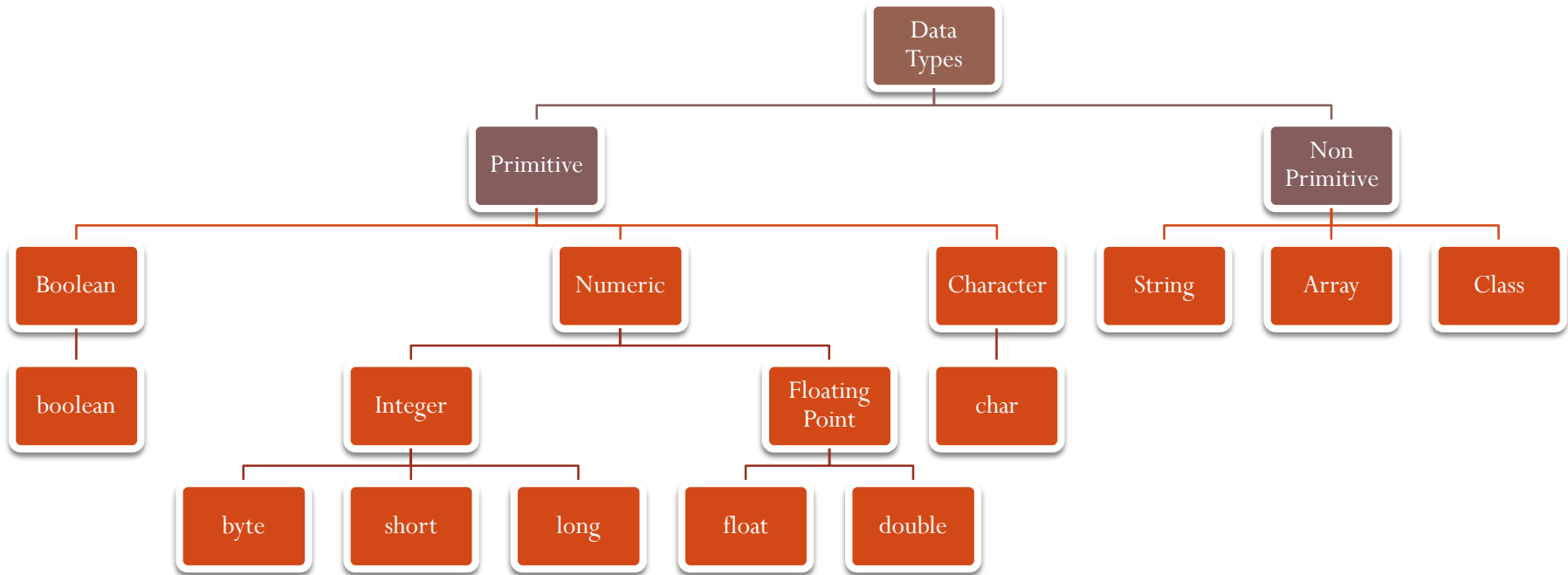
Declaration +
Definition

Data Type Name Value

_____ **int** i = 10;

Data Types

Variable Data Types



Demo

Data Types size and Default values

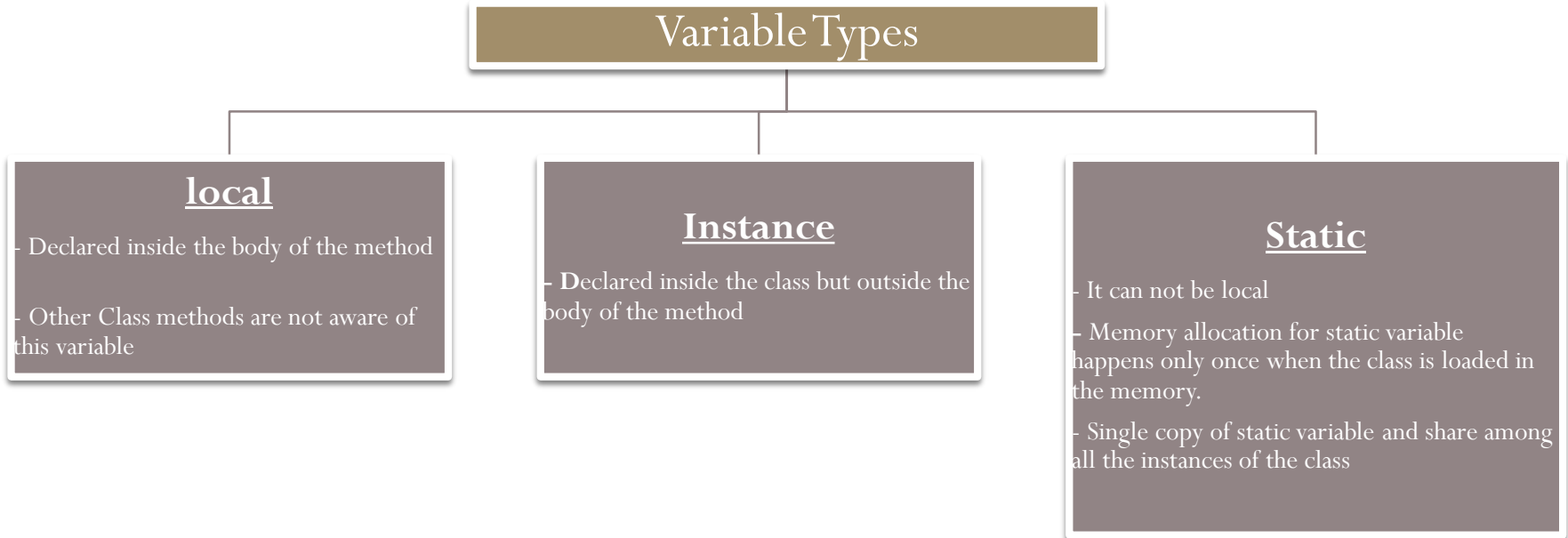
Data Types range

Data Types Range and size

Type	Size	Range
byte	8 bits	-128 .. 127
short	16 bits	-32,768 .. 32,767
int	32 bits	-2,147,483,648 .. 2,147,483,647
long	64 bits	-9,223,372,036,854,775,808 .. 9,223,372,036,854,775,807
float	32 bits	$3.40282347 \times 10^{38}$, $1.40239846 \times 10^{-45}$
double	64 bits	$1.7976931348623157 \times 10^{308}$, $4.9406564584124654 \times 10^{-324}$

Variables

Types of Variables



Variables

Example – Types of Variables

```
public class Demo1 {  
  
    int student_id = 50; // instance variable  
    static int collegeId = 100; // static variable  
  
    void Learnmethod() {  
        int fees = 90; // local variable  
    }  
  
    // end of class
```

Operators in Java for selenium



Operators

Operators

- ✚ Arithmetic operators
- ✚ Assignment operators
- ✚ Comparison operators
- ✚ Logical operators
- ✚ Bitwise operators

Arithmetic operators

Operator	Name	Description	Example
+	Addition	Adds together two values	$x + y$
-	Subtraction	Subtracts one value from another	$x - y$
*	Multiplication	Multiplies two values	$x * y$
/	Division	Divides one value from another	x / y
%	Modulus	Returns the division remainder	$x \% y$
++	Increment	Increases the value of a variable by 1	<code>++x</code>
--	Decrement	Decreases the value of a variable by 1	<code>--x</code>

Assignment operators

Operator	Example	Same As
=	x = 5	x = 5
+=	x += 3	x = x + 3
-=	x -= 3	x = x - 3
*=	x *= 3	x = x * 3
/=	x /= 3	x = x / 3
%=	x %= 3	x = x % 3
&=	x &= 3	x = x & 3
=	x = 3	x = x 3
^=	x ^= 3	x = x ^ 3
>>=	x >>= 3	x = x >> 3
<<=	x <<= 3	x = x << 3

Comparison operators

Operator	Name	Example
<code>==</code>	Equal to	<code>x == y</code>
<code>!=</code>	Not equal	<code>x != y</code>
<code>></code>	Greater than	<code>x > y</code>
<code><</code>	Less than	<code>x < y</code>
<code>>=</code>	Greater than or equal to	<code>x >= y</code>
<code><=</code>	Less than or equal to	<code>x <= y</code>

Logical operators

Operator	Name	Description	Example
&&	Logical and	Returns true if both statements are true	<code>x < 5 && x < 10</code>
	Logical or	Returns true if one of the statements is true	<code>x < 5 x < 4</code>
!	Logical not	Reverse the result, returns false if the result is true	<code>!(x < 5 && x < 10)</code>

Demo

Mostly used operators

Control flow statements or conditional statements in Java for selenium



Control flow statements

Or Conditional statements



if



nested if



if-else



if-else-if



switch

If - syntax

Conditional / Control flow statements

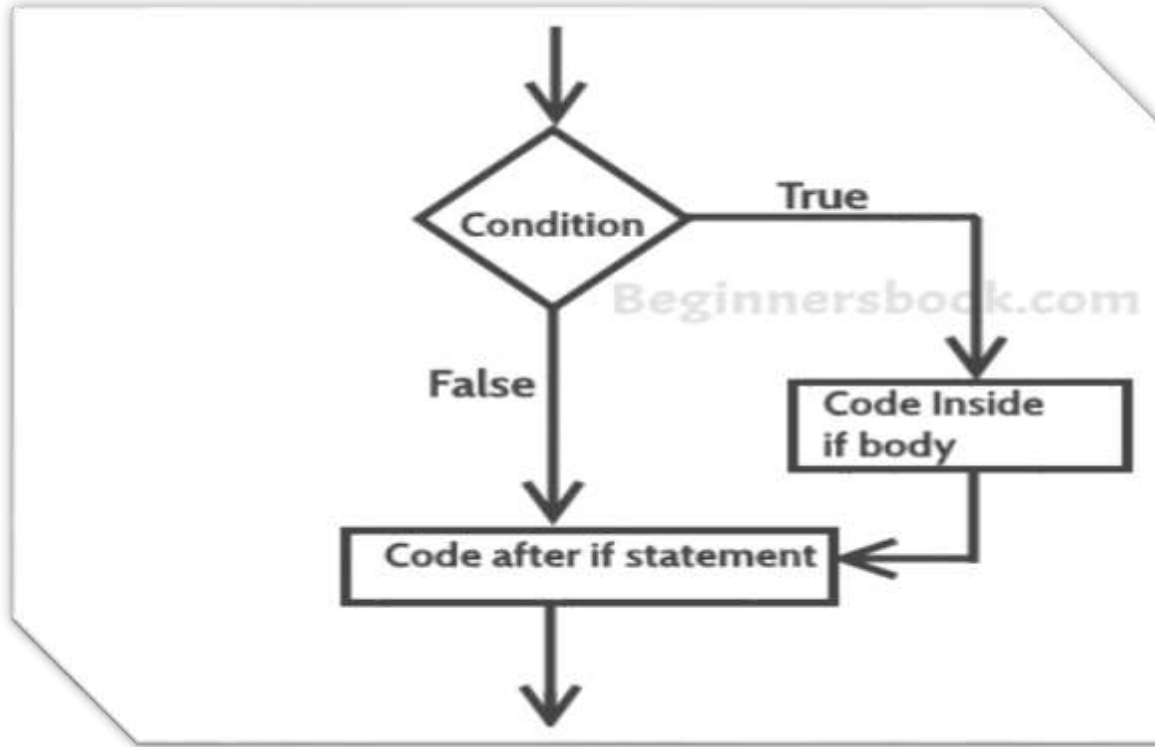


True/False

```
If(condition) {  
  
Statements(s);  
  
}
```

If – flow diagram

Conditional/ Control flow statements



Demo

Conditional/ Control flow statements

Nested if - syntax

Conditional / Control flow statements

True/False

```
if(condition_1) {  
    Statement1(s);
```

```
    if(condition_2) {  
        Statement2(s);  
    }  
}
```

Statement2 will only execute if both the conditions(
condition_1 and
condition_2) are true.

Demo

Conditional/ Control flow statements

If-else -syntax

Conditional / Control flow statements

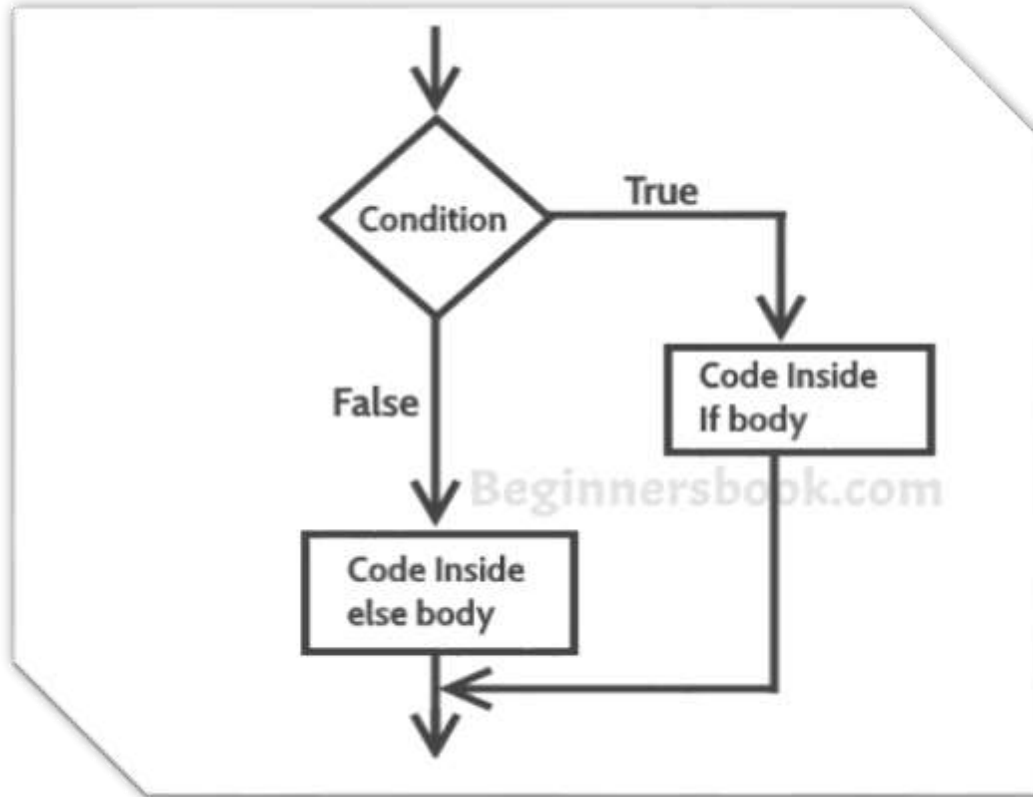
True/False

```
if(condition_1) {  
    Statement1(s);  
  
    else {  
        Statement2(s);  
    }  
}
```

statements inside “else”
will execute if the
condition is false.

If -else flow diagram

Conditional/ Control flow statements



Demo

Conditional/ Control flow statements

If – else-if

Conditional/ Control flow statements

True/False

```
if(condition_1) {  
    statement(s);  
}  
else if(condition_2) {  
    statement(s);  
}  
else if(condition_3) {  
    statement(s);  
}  
else {  
    statement(s);  
}
```

Statements after
condition_2 will not
execute if it is executed

Demo

Conditional/ Control flow statements

switch- syntax

Conditional/ Control flow statements

switch (variable or an integer expression)

{

case constant:

statement;

break;



case constant:

statement;

break;

default:

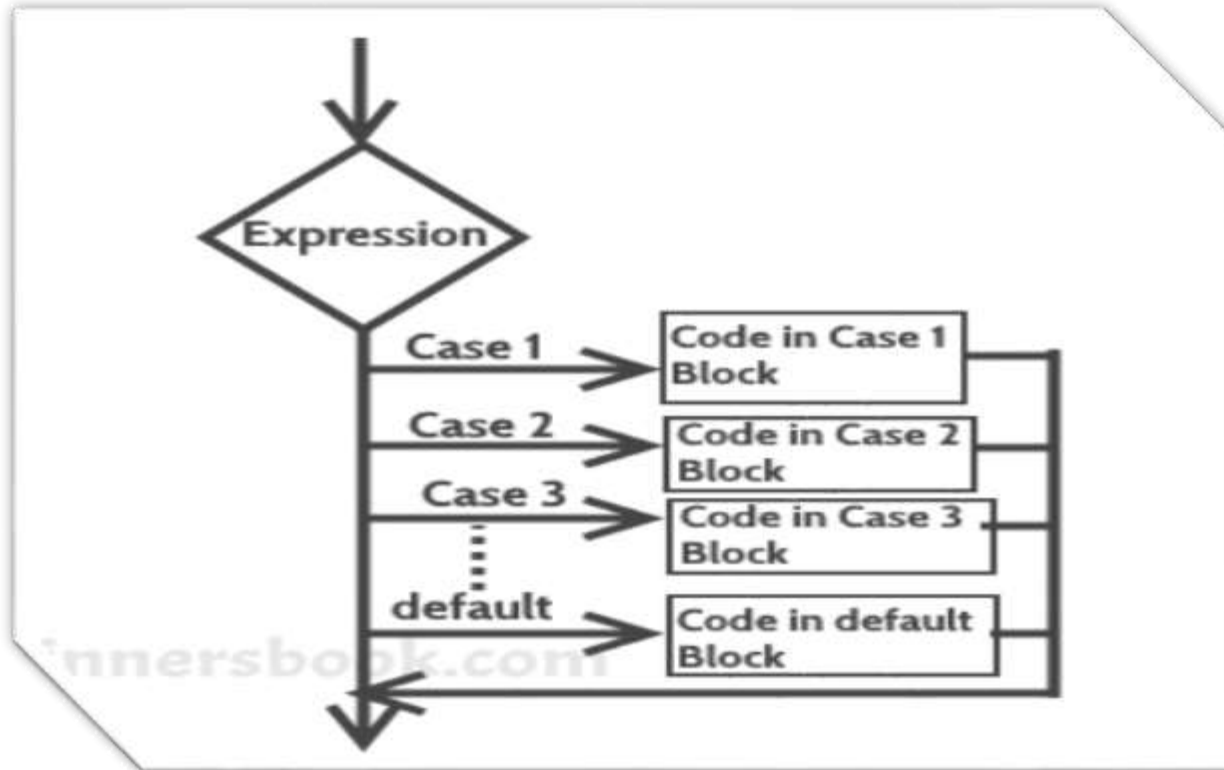
statement;

}

break Statement is optional
; if it is not there
subsequent steps will be
executed after equal option
is found

switch- flow diagram

Conditional/ Control flow statements



Demo

Conditional/ Control flow statements

Loop control statements in Java for selenium



loop control statements



while



do while



for

while loop

loop statements

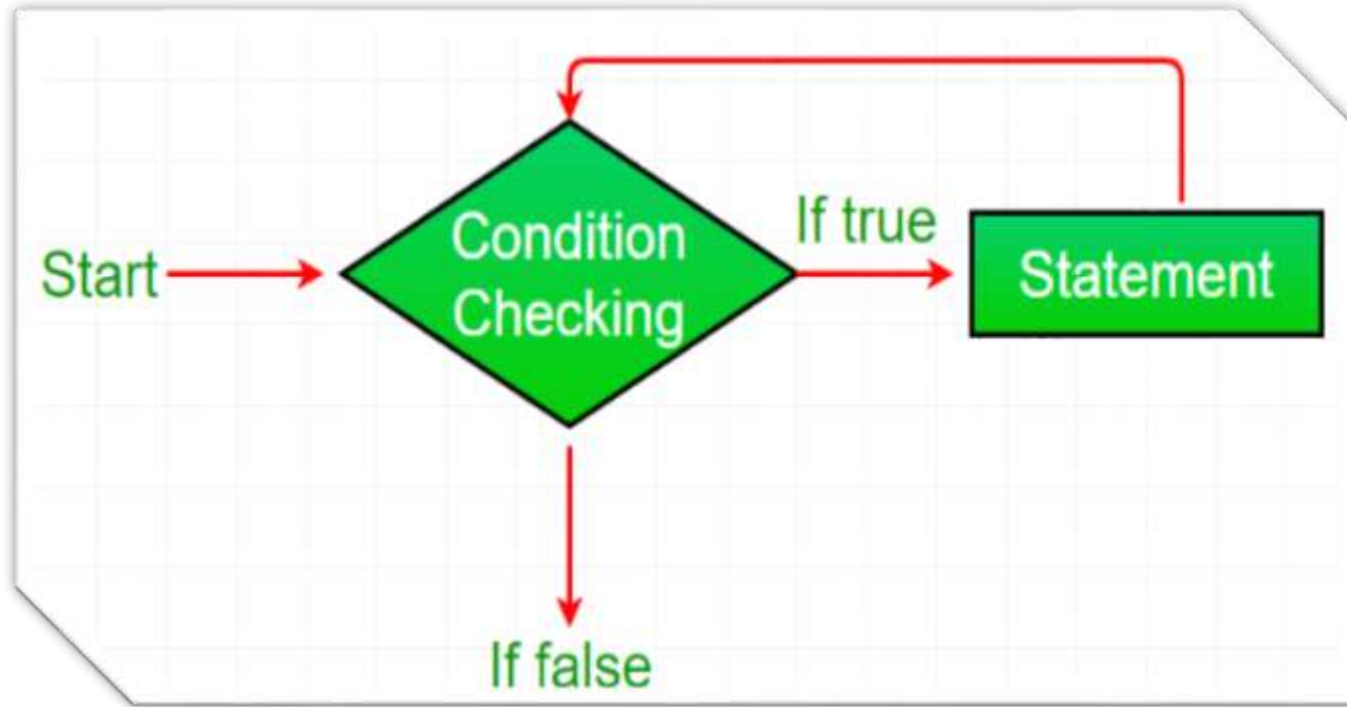
True/False

```
variable initialize;  
while (condition with variable) {  
    // code block to be executed  
  
    variable++  
  
}
```

loop loops through a
block of code as long
as a specified condition
is true

while loop – flow diagram

loop statements



Demo

loop statements

do while loop

loop statements

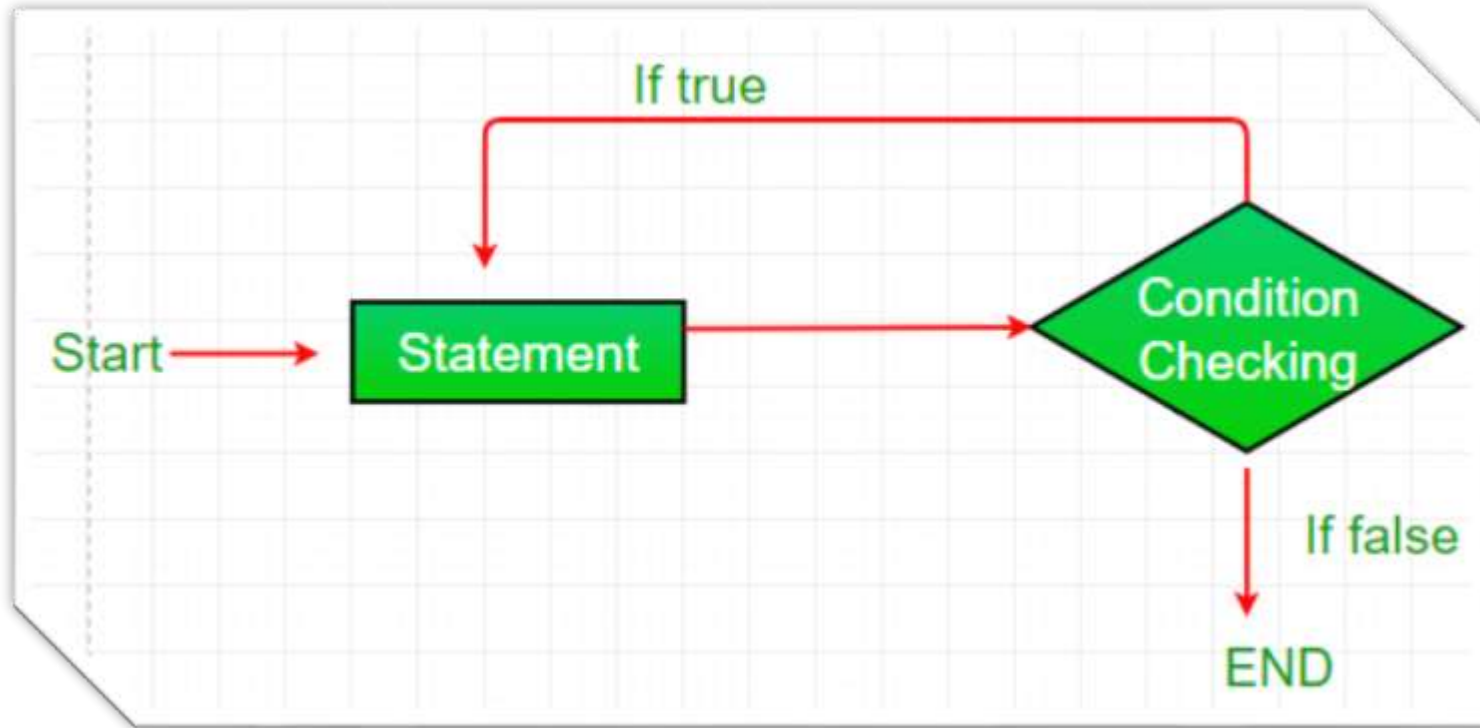
True/False

```
variable initialize;  
do {  
  // code block to be executed  
  
  variable++  
} while (condition with variable);
```

*do-while loop is
executed at least once
because condition is
checked after loop
body.*

do-while loop – flow diagram

loop statements



Demo

loop statements

For loop - syntax

loop statements

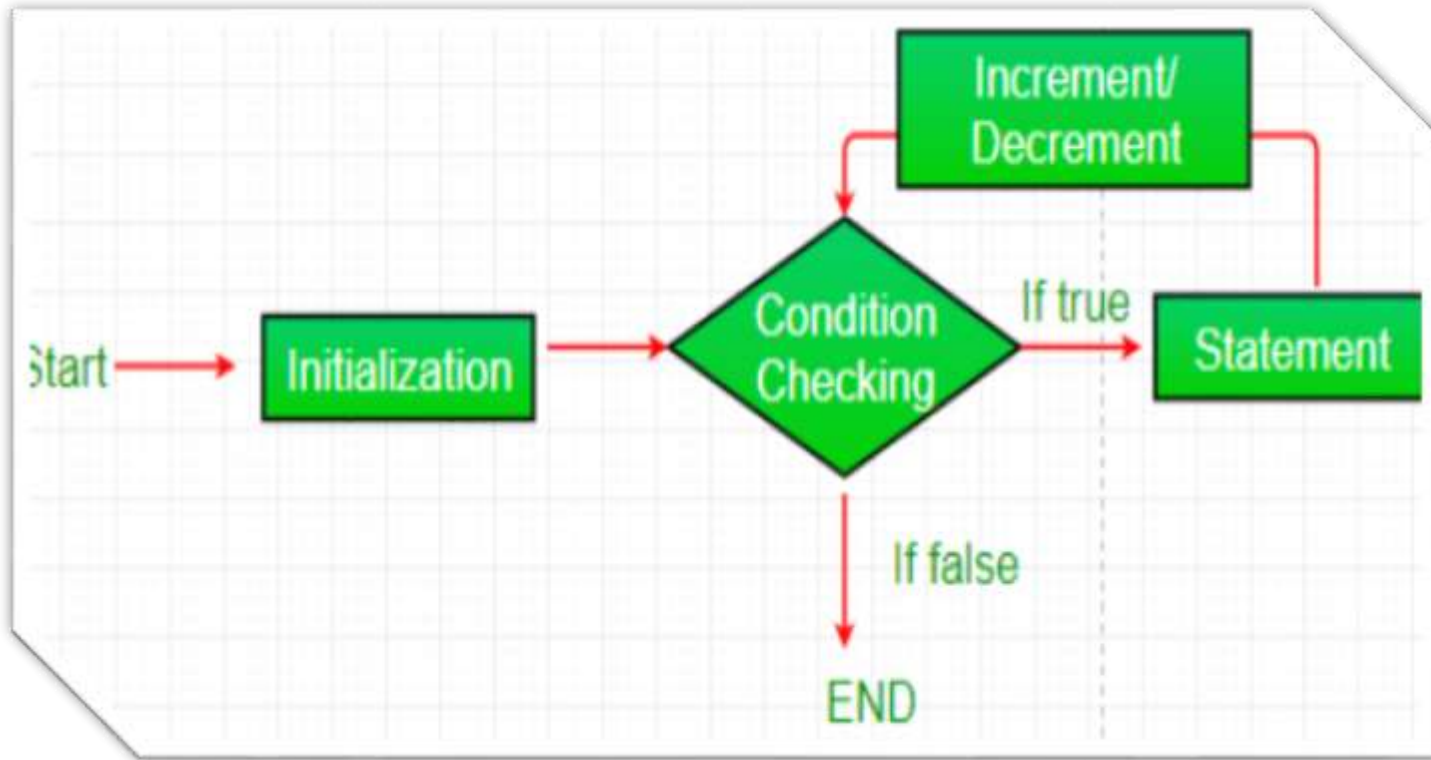
```
for (variable initialization; testing condition; variable ++ )  
{  
  
statement(s)  
  
}
```

True/False

loop loops through a
block of code as long
as a specified condition
is true

for loop – flow diagram

loop statements



Demo

loop statements

Arrays in Java for selenium



Arrays - syntax

Define the variable
type with **square**
brackets:

```
String[] cars;  
String[] cars = {"Audi", "BMW", "Skoda", "Ford"};
```

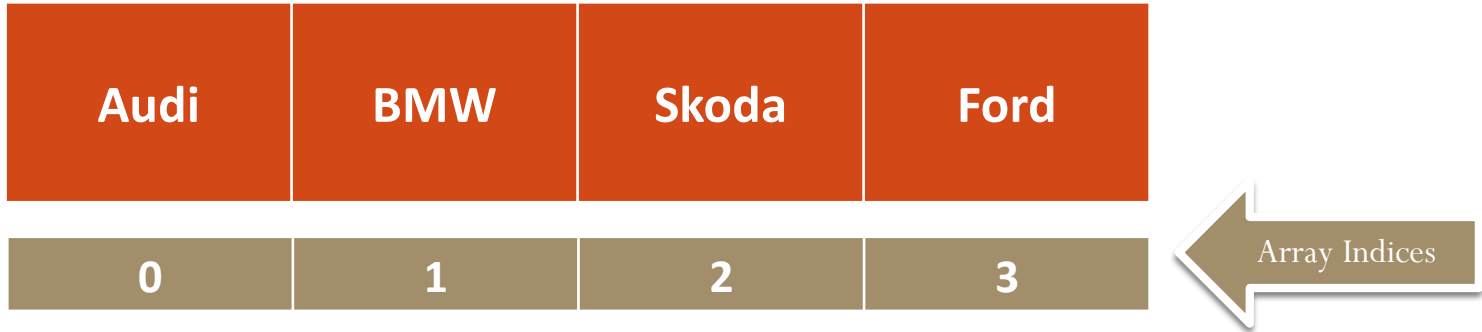
OR

```
int[] myNum;  
int[] myNum = {10, 20, 30, 40};
```

Arrays are used to
store multiple values
in a single variable,
instead of
declaring separate
variables for each
value.

Arrays in memory

```
String[] cars = {"Audi", "BMW", "Skoda", "Ford"};
```



Array Length = 4

First Index = 0

Last Index = 3

Access or assign Array elements

E.g. `String[] cars = {"Audi", "BMW", "Skoda", "Ford"};`

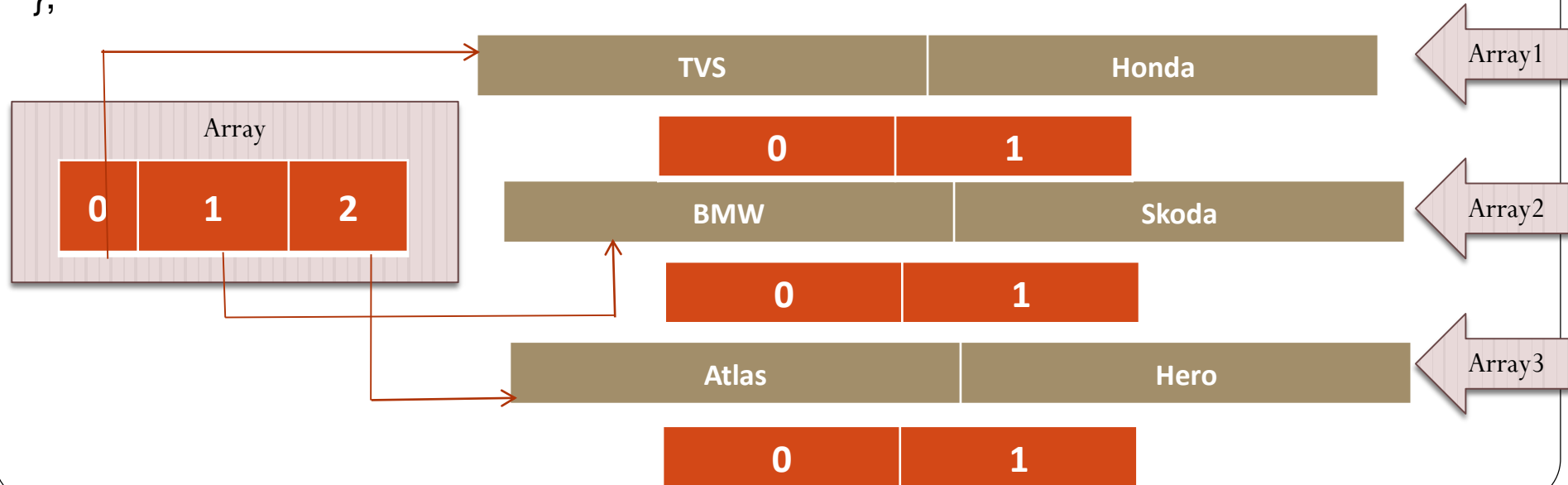
✚ Access Element : `cars[0]`

✚ Add in new array or update in existing Element : `cars[1] = "mercedes"`

Demo

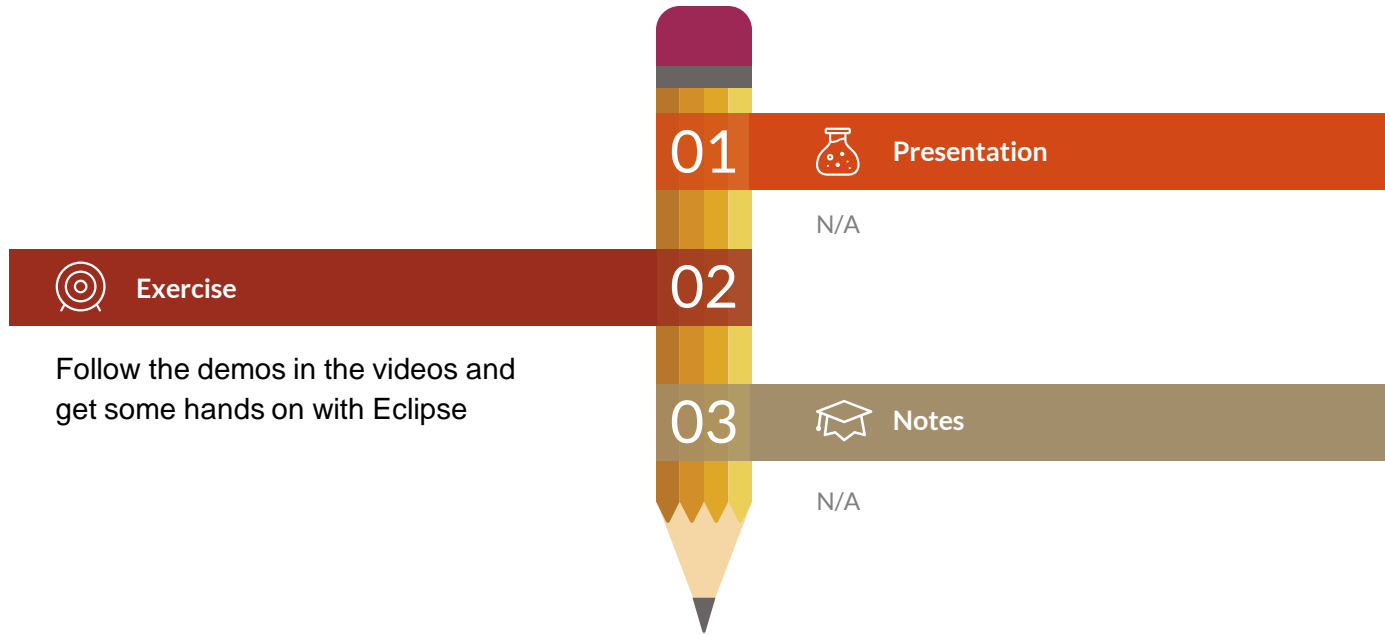
Multidimensional Arrays

E.g. 2-D Array - `String[][] vehicles = { { "TVS", "Honda" },
{ "BMW", "Skoda" },
{ "Atlas", "Hero" },
};`



Demo

Session Content



Recap

01

Variables and Data Types for selenium

Definition of variables , Primitive and Non Primitive Data Types , Data Type Range etc

02

Operators in Java for selenium

Arithmetic, Logical , Comparison operators etc

03

Control flow or conditional statements and loop statements

If , nested if , if else , if else if , switch statements etc.

While , do while , for loops

04

Arrays

Definition of Array , Multidimensional Arrays

Now

Next

01

Core Java for Selenium Automaton Beginner part -II

Java Object Oriented Concepts , Collection Framework , Exception Handling etc



DO YOU HAVE
ANY QUESTIONS?

Any questions?