WELCOME TO
World of Java

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

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Learning outcomes

- Java Architecture
- How to write a simple program using Java
- How to compile and run a java program

Class & Object

- What is a Class?
  - A class is a **blueprint** or **prototype** that defines the variables and the methods(functions) common to all objects of a certain kind.

- What is an object?
  - An object is a representative or specimen of a class. Software objects are often used to model real-world objects you find in everyday life.
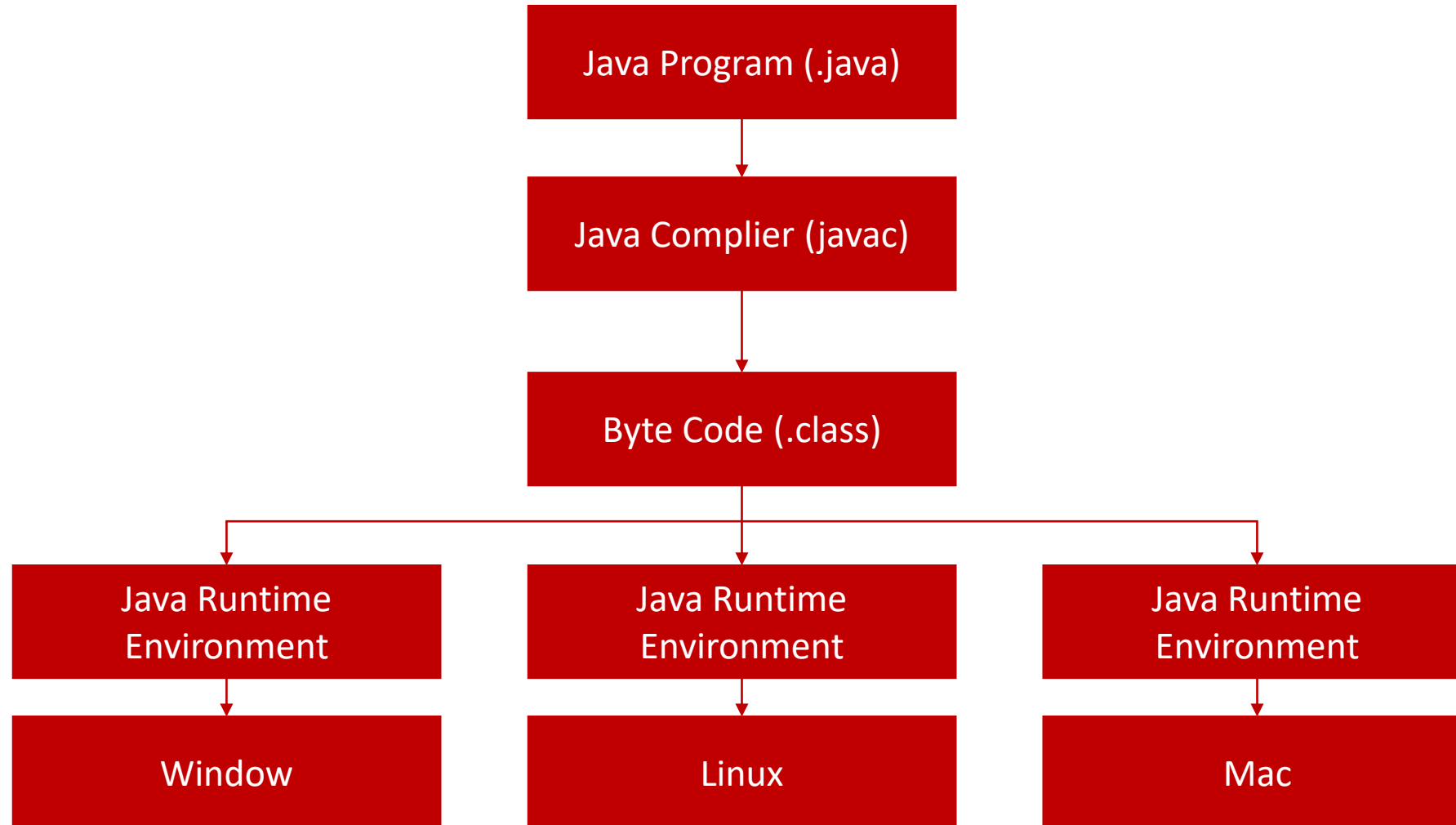
Introduction to Java

- A language developed by Sun Microsystems
- A general Purpose language
- High - level language
- Developed initially for consumer devices
- Popular platform to develop enterprise applications
  - Find use in internet and mobile based applications

Platform Independence

- Java is a language that is platform independent
- A platform is the hardware and software environment in which a program runs.
- Once compiled code will run on any platform without recompiling or any kind of modification.
  - "Write Once Run Anywhere"
- This is made possible by use of a **Java Virtual Machine** commonly known as JVM.

Compilation & Execution

Data types in Java

- Two types of variables
  - Primitive type

Integer Data Types
- byte (1 byte)
- short (2 bytes)
- int (4 bytes)
- long (8 bytes)

Floating Type
- float (4 bytes)
- double (8 bytes)

Textual
- char (2 bytes)

Logical
- boolean (1 bytes) (true/ false)

Variables

- A variables can be considered as a name given to the location in memory where values are stored.

- One syntax of variable declaration

    <datatype> <variableName>;

- Do you imagine that the variable can change its value – yes, that is why it is called as variable.

Variable Names and Keywords

- Use only the characters 'a' through 'z', 'A' through 'Z', '0' through '9', character '_', and character '$'.

- A name can't contain space character.

- Do not start with a digit. A name can be of any length.

- Case sensitive.

- A name can not be a reserved word.

- A reserved word is a word which has a predefined meaning in Java. For example int, double, true, and import are reserved words.

- * Refer Appendix for reserved words

Can u Answer

- int good-bye;
- int shrift = 0;
- char thisMustBeTooLong;
- int bubble = 0,toil = 9, trouble = 8
- int 8ball;
- int double;

Answers

- int good-bye; //bad variable name

- int shrift = 0; //OK

- char thisMustBeTooLong; //OK in syntax //but poor choice in variable name

- int bubble = 0,toil = 9, trouble = 8

-   // ";" missing at the end

- int 8ball; //can't start with a digit

- int double; //double is a reserve word

Arithmetic Operators

- What is the value of −12 + 3
- An arithmetic operator is a symbol that asks for doing some arithmetic.

Operator	Meaning	Precedence
-	Unary minus	highest
+	Unary Plus	highest
*	Multiplication	middle
/	Division	middle
%	Modulus	middle
+	addition	low
-	Subtraction	low

Parentheses

- Difference between -1 * (9 - 2) * 3 and -1 * 9 - 2 * 3
- To say exactly what numbers go with each operator, use parentheses.
- Nested Parentheses: The expression is evaluated starting at the most deeply nested set of parentheses (the "innermost set"), and then working outward until there are no parentheses left. If there are several sets of parentheses at the same level, they are evaluated left to right.
- (((32 - 16) / (2 * 2)) - (4 - 8)) + 7
- Are arithmetic expressions the only kind of expression?

Summary

- Java Architecture
- Write a simple program using Java
- Compile and run a java program

Appendix

Abstract	Const	Finally	Implements	Public	This
Boolean	Continue	For	instanceof	Throw	Transient
Break	Float	It	Null	Short	Void
Byte	Default	Import	Int	Super	Volatile
Case	Do	False	Return	Switch	while
Catch	Double	Interface	Package	Synchronized	
Char	Else	Long	private	Static	
class	Extends	Goto	Protected	Try	
true	final	new	native	throws	

THANK YOU