



**CHANDIGARH
UNIVERSITY**

Discover. Learn. Empower.

**INSTITUTE : UIE
DEPARTMENT : CSE**

Bachelor of Engineering (Computer Science & Engineering)

PROJECT BASED LEARNING IN JAVA

(20CST-319/20ITT-319)

TOPIC OF PRESENTATION:

Keywords, Tokens, Data types.

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Lecture Objectives

In this lecture, we will discuss:

- Keywords, Tokens, Data types.



Java Identifiers:

- All Java components require names. Names used for classes, variables and methods are called identifiers.
- In Java there are several points to remember about identifiers. They are as follows:
- All identifiers should begin with a letter (A to Z or a to z), currency character (\$) or an underscore (_).
- After the first character identifiers can have any combination of characters.
- A key word cannot be used as an identifier.
- Most importantly identifiers are case sensitive.
- Examples of legal identifiers: age, \$salary, _value, __1_value
- Examples of illegal identifiers: 123abc, -salary

Keywords

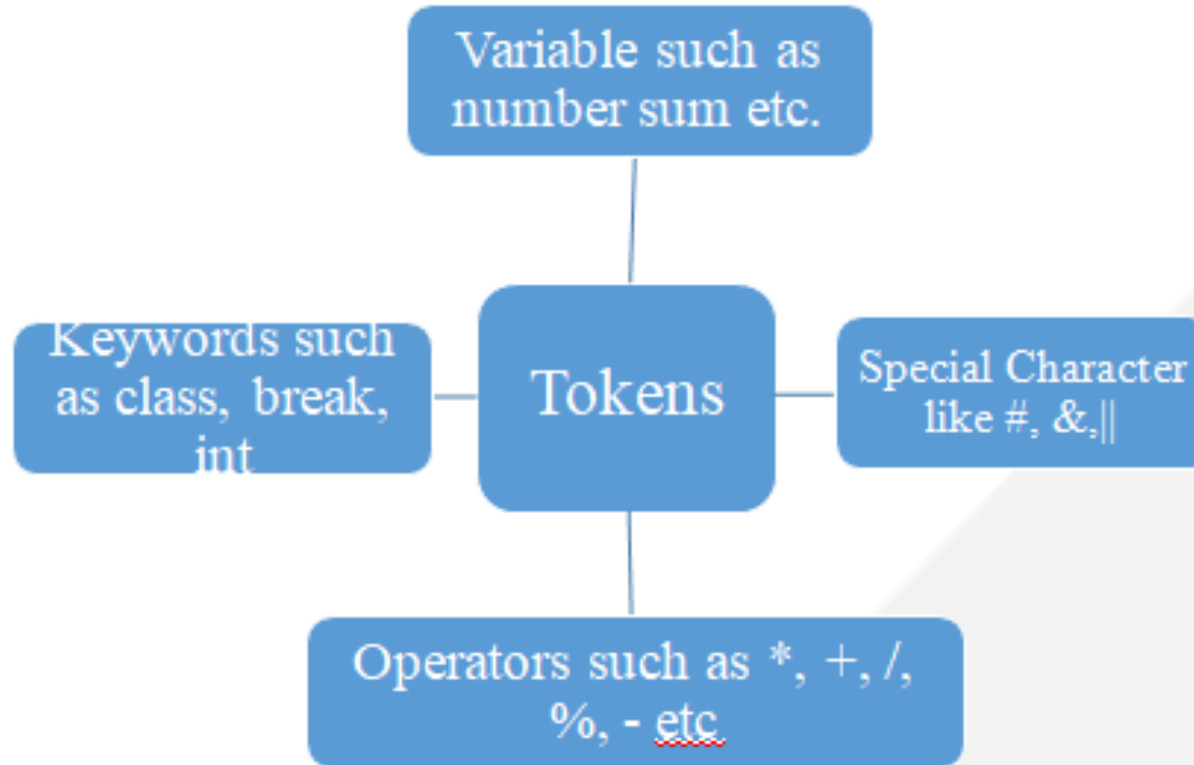
abstract	continue	for	new	switch
assert	default	goto	package	synchronized
boolean	do	if	private	this
break	double	implements	protected	throw
byte	else	import	public	throws
case	enum	instanceof	return	transient
catch	extends	int	short	try
char	final	interface	static	void
class	finally	long	strictfp	volatile
const	float	native	super	while

Tokens

- Compiler can identify some elements in program that are Tokens
- A token is the smallest element of a program that is a specified meaning to the compiler.
- In java, tokens include keywords, variables, constants, special characters, operations etc.



Tokens



Data types

Data Type	Size (inbits)	MinimumRange	MaximumRange	DefaultValue (forfields)
byte	8	-128	+127	0
short	16	-32768	+32767	0
int	32	-2147483648	+2147483647	0
long	64	-9223372036854775808	+9223372036854775807	0L
float	32	1.40E-45	3.40282346638528860e+38	0.0f
double	64	4.94065645841246544e-324d	1.79769313486231570e+308d	0.0d
char	16		0 to 65,535	'\u0000'
boolean	1	NA	NA	false



Difference:

- The main difference between **primitive** and **non-primitive** data types are:
- Primitive types are predefined (already defined) in Java. Non-primitive types are created by the programmer and are not defined by Java (except for String).
- Non-primitive types can be used to call methods to perform certain operations, while primitive types cannot.
- A primitive type has always a value, while non-primitive types can be null.
- A primitive type starts with a lowercase letter, while non-primitive types start with an uppercase letter.
- The size of a primitive type depends on the data type, while non-primitive types have all the same size.

Examples of non-primitive types are Strings, Arrays, Classes, Interface, etc.

QUIZ:

1. Java is a language.

- A. weakly typed
- B. strongly typed
- C. moderate typed
- D. None of these

2. In Java byte, short, int and long all of these are

- A. signed
- B. unsigned
- C. Both of the above
- D. None of these



Summary:

In this session, you were able to :

- Learn about Keywords, Tokens, Data types.



References:

Books:

1. Balaguruswamy, *Java*.
2. A Primer, E.Balaguruswamy, *Programming with Java*, Tata McGraw Hill Companies
3. John P. Flynt Thomson, *Java Programming*.

Video Lectures :

<https://www.youtube.com/watch?v=f8lCiYquj28>

<https://www.youtube.com/watch?v=e5ftceLyKbM>

<https://www.youtube.com/watch?v=TL7tdNp0raE>

Reference Links:

https://www.w3schools.com/java/java_ref_keywords.asp

<https://www.geeksforgeeks.org/list-of-all-java-keywords/>

https://docs.oracle.com/javase/tutorial/java/nutsandbolts/_keywords.html

https://www.w3schools.com/java/java_data_types.asp

<https://www.geeksforgeeks.org/data-types-in-java/>

<https://www.youtube.com/watch?v=bqPIWlnjWbA>

<https://www.youtube.com/watch?v=iFzA43xR04s>





THANK YOU

