**Language Fundamentals**

Topics covered

1. Identifiers

2. Reserved words

3. Data types

4. Literals

5. Arrays

6. Types of variables

7. var-arg method

8. main method

9. Command line arguments

10. Java coding standards

**1. Identifier**

> A name in java program is called Identifier which can be used for identification purpose.

> It can be method name, variable name, class name or label name.

For E.g.

Class ***Test*** {

public static void ***main*** (***String***[] ***args***) {

int ***x*** = 10;

}

}

Q. How many identifiers are there in above program? -> 5 (Identifiers in bold & italic letter)

> Rules for defining Java Identifiers

a) Allowed characters in java identifiers are a to z, A to Z, 0 to 9, $, \_

b) Identifiers can’t start with digit.

c) Identifiers are case sensitive. (Java language is itself treated as a case – sensitive programming language.)

d) No length limit for java identifiers but recommended to take simple & understandable name.

e) We can’t use reserved words as identifiers.

f) All predefined java class names & interface names can be used as identifiers but not recommended to use that.

**2. Reserved words**

> In java, some words are reserved to represent special meaning or functionality, such types of words are called Reserved words.

> Total 53 reserved words in which 50 are keywords & 3 are reserved literals (true, false, null).

> In 50 keywords, 48 are used keywords & 2 are unused (goto, const).

> Use ‘final’ keyword instead of ‘const’.

> In java returntype is mandatory. If a method won’t return anything then it has to be declared with void returntype.

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| --- | --- | --- |
| Keywords for Datatype  1. byte  2. short  3. int  4. long  5. float  6. double  7. boolean  8. char | Keywords for flow control  1. if  2. else  3. switch  4. case  5. default  6. while  7. do  8. for  9. break  10. continue  11. return | Keywords for Modifiers  1. public  2. private  3. protected  4. static  5. final  6. abstract  7. synchronized  8. native  9. strictfp  10. transient  11. volatile |
| Keywords for exception handling  1. try  2. catch  3. finally  4. throws  5. assert  6. throw | Class related keywords  1. class  2. interface  3. extends  4. implements  5. package  6. import  Enum keyword (can be used to define a group of named constants)  1. enum | Object related keywords  1. new  2. instanceof  3. super  4. this  Returntype keyword  1. void |

Fig: Keywords collection used in Java

Note:

> All 53 reserved words in Java contains only lowercase alphabet symbol.

> In Java, we have only new keyword; no delete keyword as destruction of useless object is the responsibility of Garbage collector.

3. Data types

> In java, every variable & every expression has some type.

> Each & every datatype is clearly defined.

> Every assignment should be checked by compiler for type compatibility.

> Because of above reasons, we can conclude java language is strongly typed programming language.