

Java Test 1

Q1: What is Token?

A1: Tokens are smallest individuals units in a program. The compiler reads the source program one character at a time grouping the source code program into a sequence of atomic units called tokens. Each token represents a sequence of characters that can be treated as a single logical entity. Reserved word, Identifiers, Constants, Operators and Punctuation symbols are called tokens.

Q2: Write short note on Keywords in Java?

A2: The Keywords or reserved words are one which has a special and predefined meaning to the java compiler. There are 48 reserved keywords currently used in java. These reserved keywords cannot be used as names for a variable, constant, class or methods.

Java Reserved Keywords

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

Q3: What is an identifier? What are the rules to code it?

A3: In a Java program, the programmer has to give names for various elements like class, method variable, etc. The name used for this purpose is called an identifiers (or) variables. The rules for variable names are as follows:

1. Variable name must begin with a letter, a dollar symbol or an underscore, Which may be followed by a sequence of letters or digit, '\$' or '_'.
2. Variable names must be unique.
3. There should be no space in between any two characters of an identifier.
4. They can be of any length.
5. Keywords cannot be used for variable name.
6. Java is case-sensitive, so upper case and lower case letters are distinct.
7. Unicode characters are also used to represent the variable names.

Examples : Counter, stdu20, \$testing, my_variable, averagemark.Center, center (The Center and center are distinct identifiers).1 I

Invalid variables

- 47123 : cannot begin with digit
- #phone : the special character '#' is not allowed
- Total Hour : blank space between 'l' and 'H'
- Basic,pay : ',' is not allowed
- if : reserved word are not allowed as identifiers.

Q4: Which of the following are valid variable name?

- a) id2 c) `_5var` e) \$PRABHU g) 754
b) 2cons d) #no f) AXN TV h) switch

A4: valid variable name :

id2 `_5var` \$PRABHU

Q5: What is a constant?

A5: **Constants:** Any quantity, whose value does not change during the execution of a program, is generally termed as a constant. It is also known as literal; a literal is a sequence of characters.

There are five types of constants in the JAVA. They are

1. Integer constants.
2. Floating point constant.
3. Character constant.
4. Boolean constant.
5. String constant.

Q6: Why reserved words are not used in variable name?

A6: The reserved words are not used in variable name because these reserved words have special meaning for java compiler. Java compiler makes distinct rule for reserved words and variable name.

Q7: What is character constant? Give an example.

A7: **Character Constant:** A character constant is represented inside a pair of single quotes. It is used to represent the i.e. ASCII characters and special symbols. If you want to store the newline character, you must use the **escape sequence**. These sequences consist of ‘\’(back slash) and a character. Each character has its Unicode value. Back slash character constants are shown in following table:

Escape	Description	Unicode
\'	Single quote	\u0027
\"	Double quote	\u0022
\\	Back slash	\u005C
\b	Back space	\u0008
\t	tab	\u0009
\n	Line feed (or) New line	\u000A
\r	Carriage return	\u000D

The value of the character is represented by an octal (or) hexadecimal. For octal \ followed by three digit. For hexadecimal \u followed by exactly 4 hexadecimal value.

E.g.: a = '\141'; //for octal representation
 a = '\u0061'; // for hexadecimal representation

Q8: List the basic data type used in java.

A8: **Data Type in java**

1. Primitive (Standard)
 - i. Numeric
 - i. integer
 1. byte
 2. short
 3. int
 4. long
 - ii. floating
 1. float
 2. double
 - ii. Non Numeric
 - i. character
 1. char
 - ii. boolean
 1. boolean
2. Non- Primitive(Derived)
 - i. array
 - ii. class
 - iii. interface

Q9: What is the range value of int data type?

A9: -2^{31} (-2147483648) to $2^{31}-1$ (2147483647)

Q10: Which of the following represent a Hexadecimal number?

- | | | |
|--------|-------------|---------|
| a) 375 | c) (hexa)20 | e) 0xab |
| b) 021 | d) 0x9i | f) 0x12 |

A10: Hexadecimal numbers are 0xab and 0x12