JAVA

Language fundamentals

① Identifiers
② Reserved words
③ Data Types
④ Literals
⑤ Arrays
⑥ Type of Variables
⑦ var-arg methods
⑧ Main method
⑨ Command line argument
⑩ Java Coding standard.

Identifier :- A name in Java program is called identifier which can be used for idenfication purpose. It can be method/ class / variable / label name.

```
          ①
class Test {
                    ②        ③        ④
    public static void main (String[] args)
        { int x = 10; }
                 ⑤
    }
```

Q → How many identifiers are there?
A → 5

Rules for defining Java Identifiers

1 The only allowed alphabet characters in Java Identifiers are
a to z , A to z , 0-9 , $, _
If we are using any other character, we will get compile time error.

e.g total_member ✓
     total #   ✗

2. Identifiers can't starts with digit.
eg. total123 ✓
     123 total ✗

3. Java identifiers are case-sensitive. Java itself is treated as ca sensitive programming language.

```
Class Test
   { int number = 10;
     int Number = 20;
     int NUMBER = 30;
   }
```

we can differentiate
  wrt case

4. There is no length limit for Java Identifiers. But it is not recommended to take too lengthy identifiers.

5. We can't use reserved words as identifiers.
eg. int x = 10; ✓
     int if = 50; ✗

6. All predefined Java class names and interface names, we can use as identifiers.
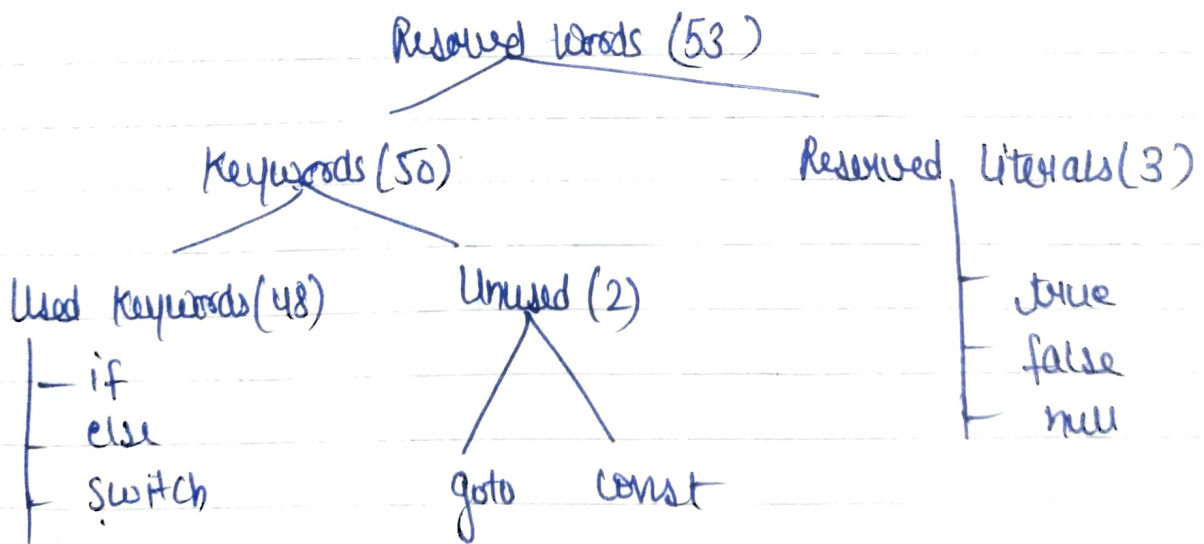eg. int String = 888 ✓
     int Runnable = 999 ✓
Even though it is valid, but it's not a good programming practice because it loses readability.

Which of the following are valid Java identifiers?

1. total_member ✓
2. total# ✗
3. 123 total ✗
4. total123 ✓
5. ca$h ✓
6. _$_$_$_ ✓
7. all@hands ✗
8. Java2Share ✓
9. Integer ✓
10. Int ✓
11. int ✗

Reserved Words

In Java, some words are reserved to represent meaning & functionality, such words are called reserved words.

Reserved words (53)

Keywords (50)

Reserved Literals (3)

Used Keywords (48)

Unused (2)

- if
- else
- switch
  ⋮

goto   const

- true
- false
- null

& so on.

$8+11+11+6+6+1+2+4+3+1 = 53$ Keywords.

Keywords for Data-Types → 8
(8)

1. byte
2. short
3. long.
4. int
5. float
6. double
7. char
8. boolean.

For flow control (11)

1. if
2. else
3. switch
4. case
5. default
6. while
7. do
8. for
9. break
10. continue
11. return

For modifiers (11)

1. public
2. private
3. protected
4. static
5. final
6. abstract
7. synchronized
8. native
9. transient
10. volatile
11. Strictfp (1.2)

For exception Handling
(6)

1. try
2. catch
3. finally
4. throw
5. throws.
6. assert

Class-related keywords(6)

1. class
2. interface
3. extends
4. implements
5. package
6. import

Return-type Keyword (1)

1. void

1. enum

Unused keywords(2)

1. goto
2. const

Object-related keywords (4)

1. new   smallo
2. instanceof
3. super
4. this

Reserved literals

1. true   2. false
3. null

In Java, return type is mandatory, if method don't return anything. We have to declare that method with m.void. But in C language, return type is optional and default return type is int

Usage of goto created several problems in older language, so banned this 'goto' we keyword in Java.
use of final instead of const.

\# goto and const are unused keywords. But if we still use, we will get compile time error.

→

\# true, false for boolean values.
\# null for default value for object reference.

\# enum keyword (1.5)

⇒ we can use enum to define a group of named constants.

```
enum month
{ JAN, FEB, ...,DEC;
}
```

→ All 53 reserved words in Java contain only lowercase alphabet symbols.

→ In Java, we have only new keyword and there is no delete keyword because deletion of new object is the responsibility of garbage collector.

→ The following are new keywords in Java →
1. strictfp (1.2) — Came in 1.2 version
2. assert (1.4)
3. enum (1.5)

→ strictfp but not strctFp
→ instanceof but not instanceOf

3. synchronized   butnot synchronize
4. extends   butnot   extend
5. implements   but not   implement
6. import   butnot   imports
7. const   but not   constant.

Q.1 Which of the following list contains only Java reserved words?

new, delete ✗
goto, constant ✗
break, continue, return, exit ✗
final, finally, finalize ✗
throw, throws, throwin ✗
notify, notifyAll ✗
implements, extends, imports ✗
sizeof, instanceof ✗
instanceOf, strictFP ✗
byte, short, Int ✗
None of the above

Q.2 Which of the following are Java reserved words?

public ✓
static ✓
void ✓
main ✗ - name of method
String ✗ - name of predefined
args. ✗   class

~ Ankita Bansal