

Java Platforms

Sridhar A

Java Platforms



Java SE

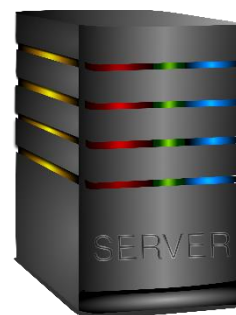
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Java Platform, Standard Edition (Java SE)

- Also called Core Java



Desktop Environments

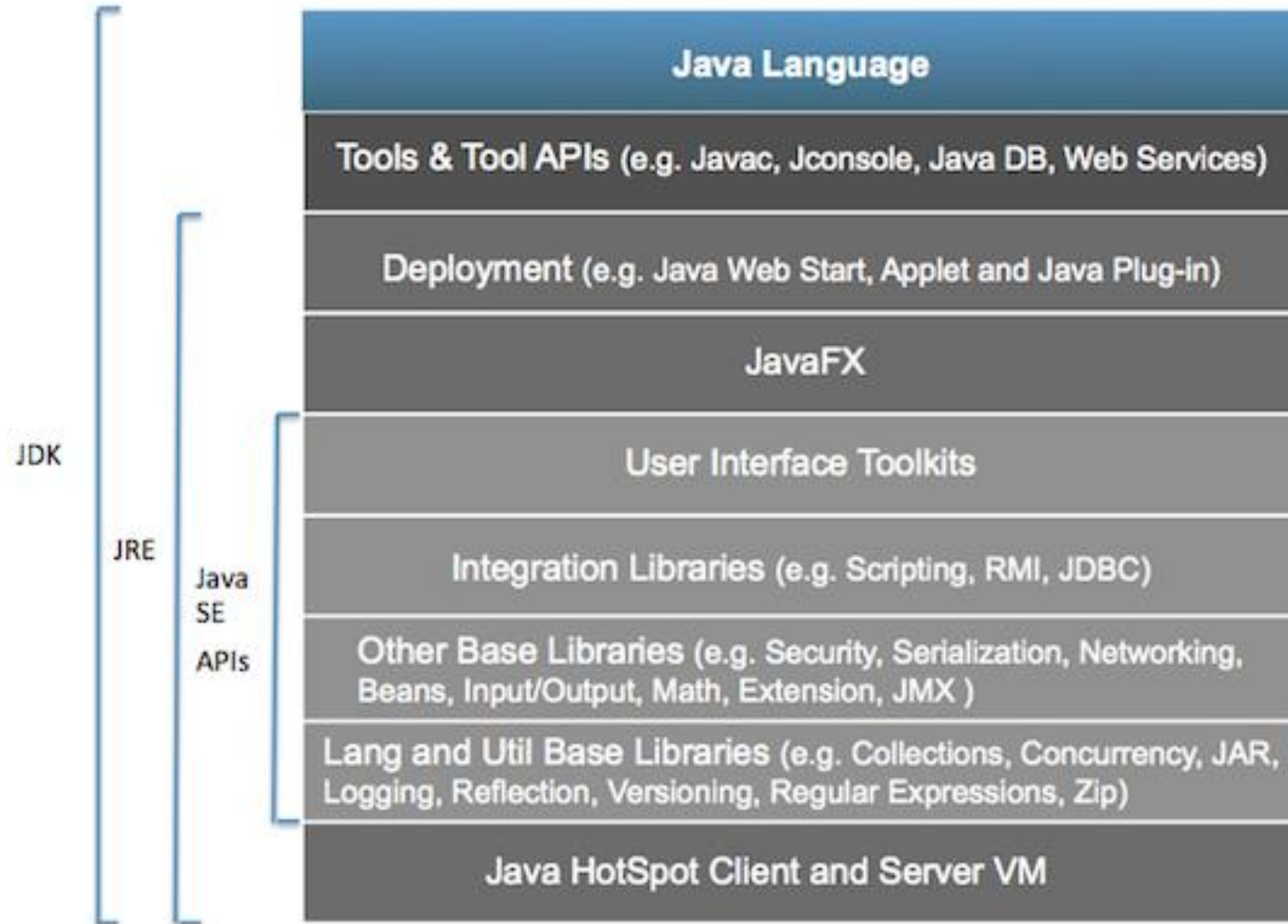


Server Environments

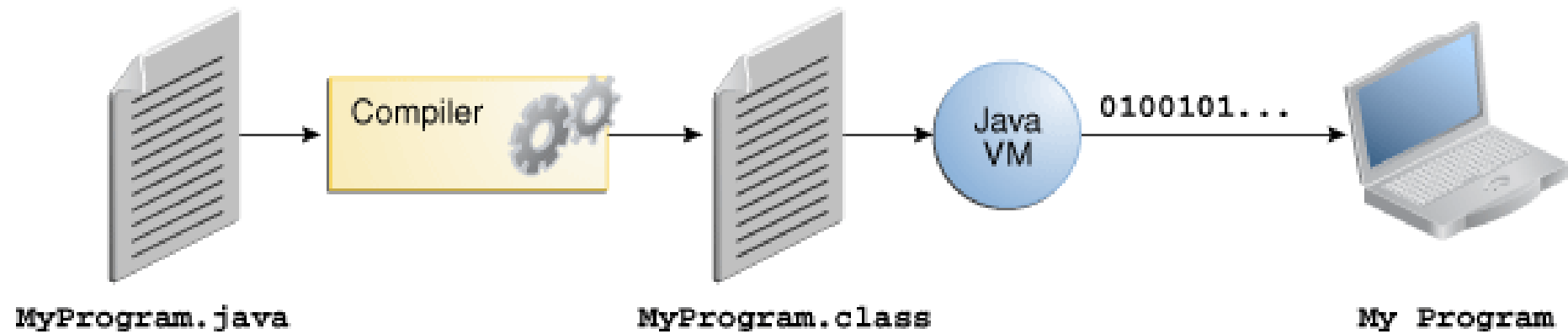


Embedded Environments

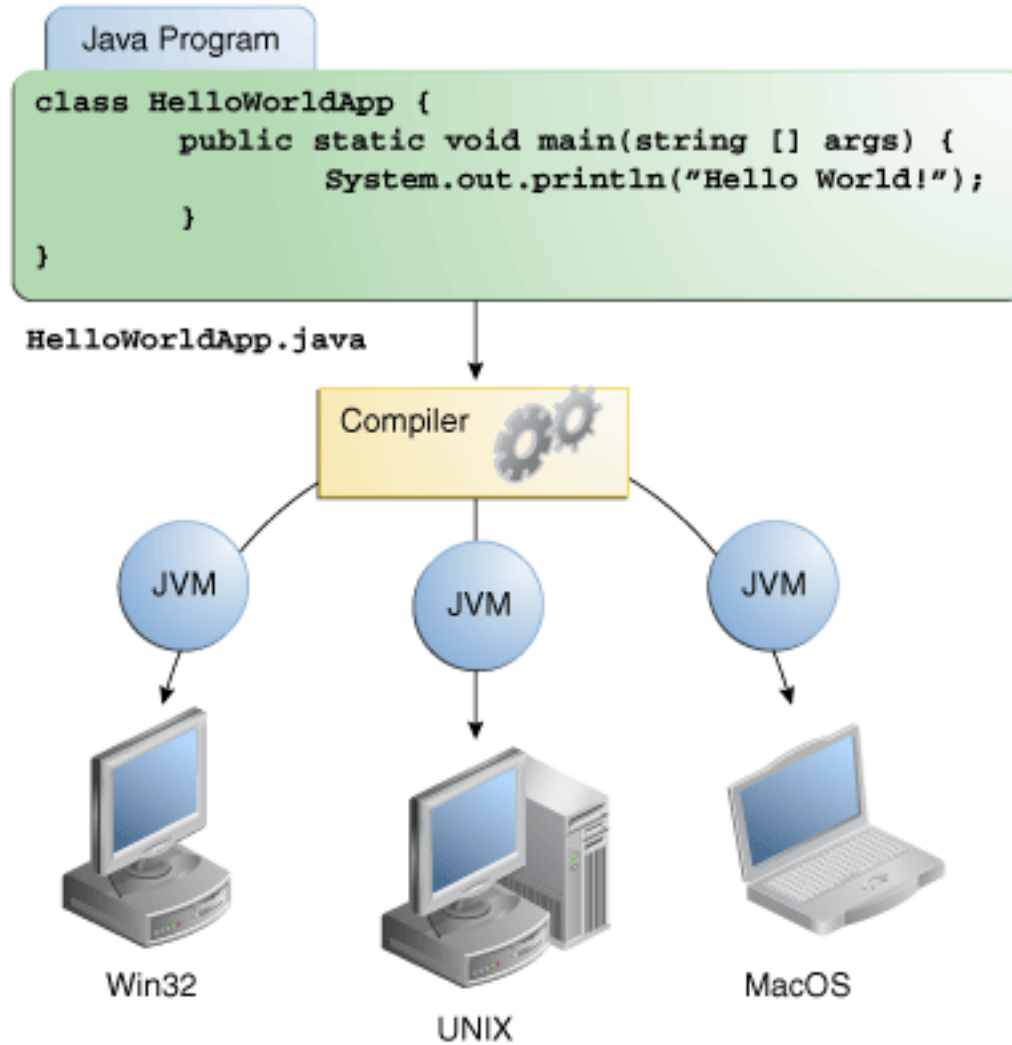
Java SE Components



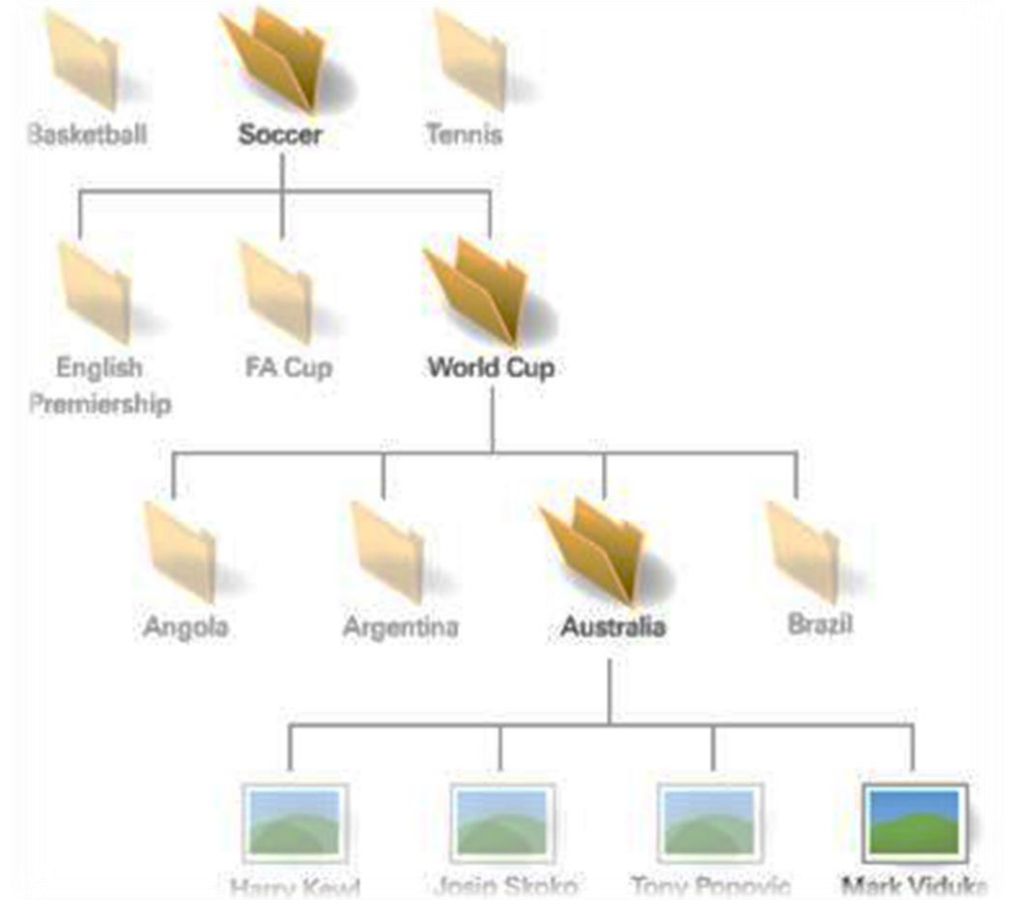
Java Program Execution

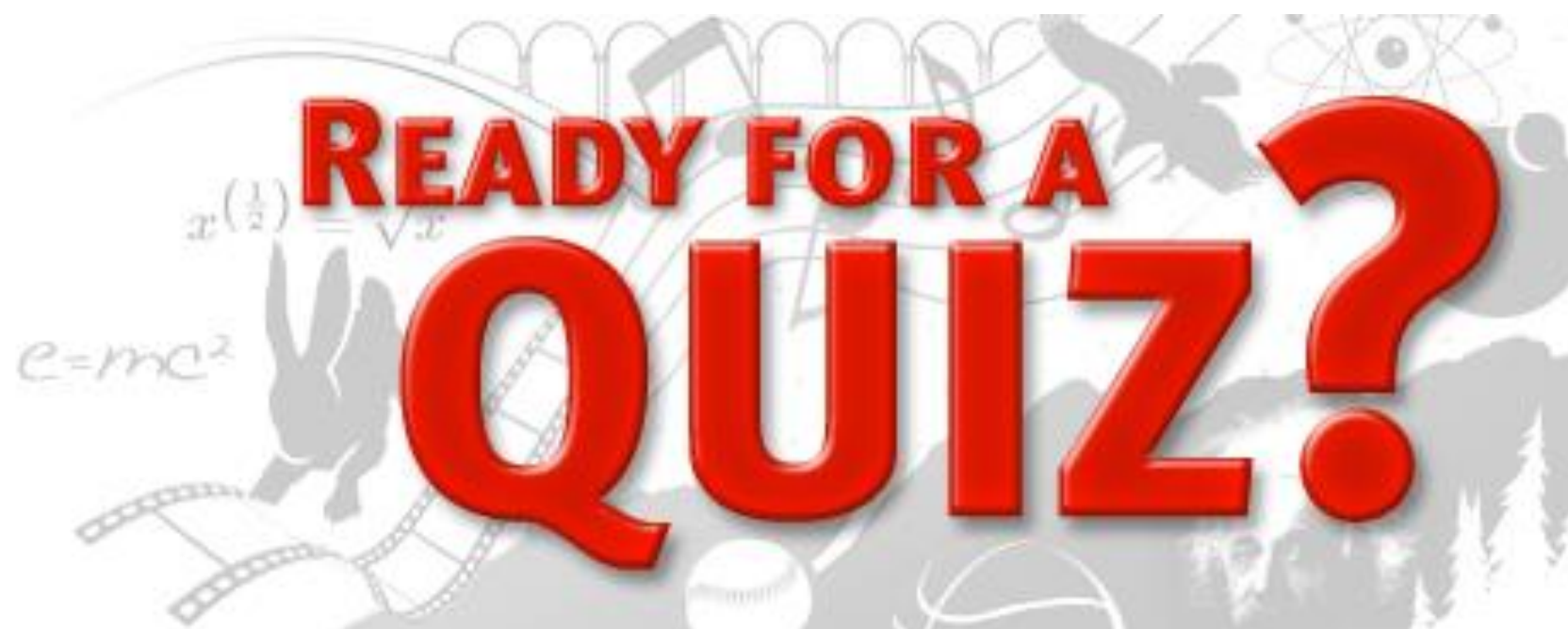


Java Program



Java Packages





- **Question 1:** When you compile a program written in the Java programming language, the compiler converts the human-readable source file into platform-independent code that a Java Virtual Machine can understand. What is this platform-independent code called?

Question 2: Which of the following is not a valid comment:

- **a. `/** comment */`**
- **b. `/* comment */`**
- **c. `/* comment`**
- **d. `// comment`**

Question 3: What is the first thing you should check if you see the following error at runtime:

**Exception in thread "main" java.lang.NoClassDefFoundError:
HelloWorldApp.java.**

- Question 4: What is the correct signature of the main method?

Question 5: When declaring the main method, which modifier must come first, public or static?

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- Question 6: A namespace that organizes classes and interfaces by functionality is called a ____.

Java Language Basics

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Variables

- **Instance Variables (Non-Static Fields)**
- **Class Variables (Static Fields)**
- **Local Variables**
- **Parameters**

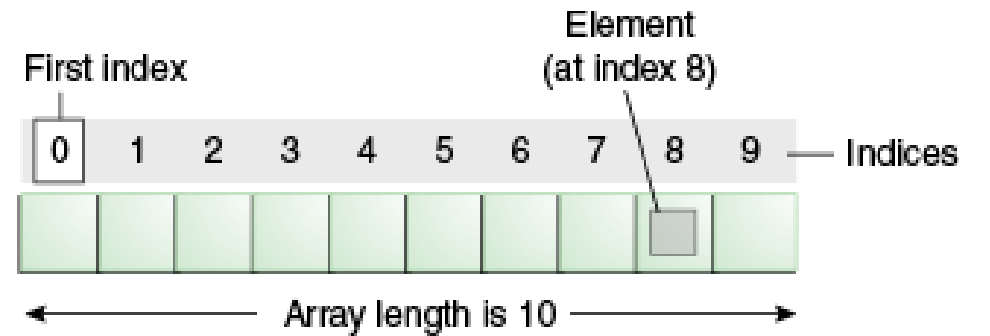
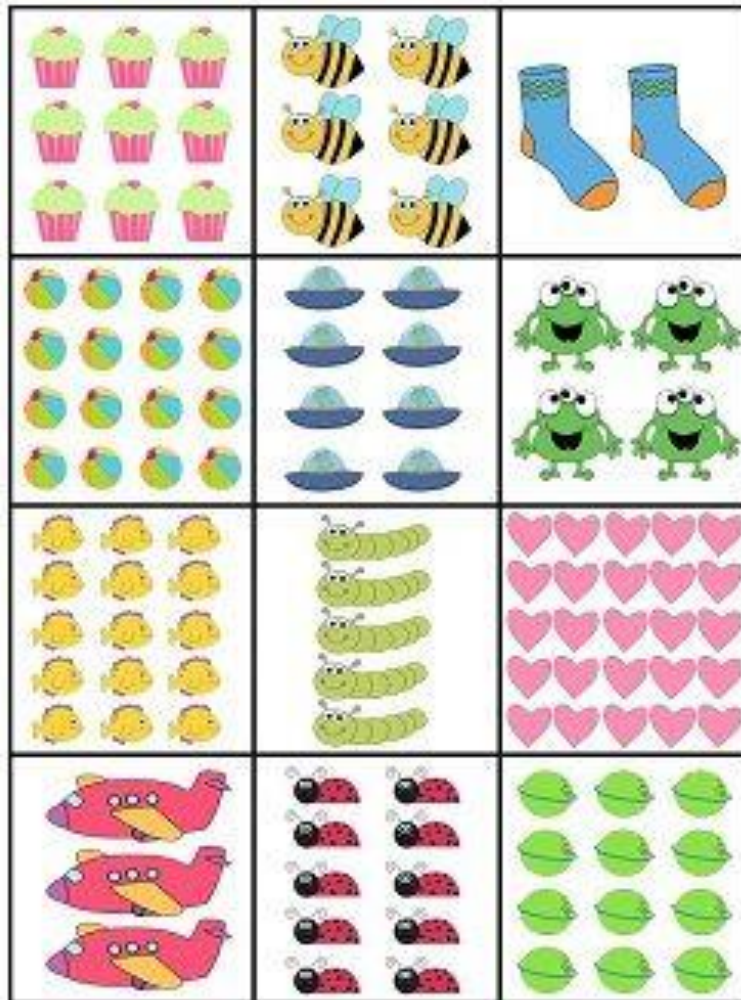
Primitive Data Types

Type	Bit/Bytes	Range
boolean	1 bit	True or false
char	16 bit/ 2 bytes	0 to 65535
byte	8 bit/ 1 byte	-128 to 127
short	16 bit/ 2bytes	-32768 to 32767
int	32 bits/4 bytes	-2147483648 to 2147483647
long	64 bits/ 8 bytes	Huge To huge
float	32 bits/ 4 bytes	varies
double	64 bits /8 bytes	varies

Default Values

Data Type	Default Value (for fields)
byte	0
short	0
int	0
long	0L
float	0.0f
double	0.0d
char	'\u0000'
String (or any object)	null
boolean	false

Arrays



Initializing Array

```
anArray[0] = 100; // initialize first element  
anArray[1] = 200; // initialize second element  
anArray[2] = 300; // and so forth
```

```
int[] anArray = {  
    100, 200, 300,  
    400, 500, 600,  
    700, 800, 900, 1000  
};
```

What is the output of this program?

```
class MultiDimArrayDemo {  
    public static void main(String[] args) {  
        String[][] names = {  
            {"Mr. ", "Mrs. ", "Ms. "},  
            {"Smith", "Jones"}  
        };  
        // Mr. Smith  
        System.out.println(names[0][0] + names[1][0]);  
        // Ms. Jones  
        System.out.println(names[0][2] + names[1][1]);  
    }  
}
```

Copying Arrays

```
public static void arraycopy(Object src, int srcPos,  
                             Object dest, int destPos, int length)
```

```
class ArrayCopyDemo {  
    public static void main(String[] args) {  
        char[] copyFrom = { 'd', 'e', 'c', 'a', 'f', 'f', 'e',  
                             'i', 'n', 'a', 't', 'e', 'd' };  
        char[] copyTo = new char[7];  
  
        System.arraycopy(copyFrom, 2, copyTo, 0, 7);  
        System.out.println(new String(copyTo));  
    }  
}
```

Array Manipulations

```
class ArrayCopyOfDemo {  
    public static void main(String[] args) {  
  
        char[] copyFrom = {'d', 'e', 'c', 'a', 'f', 'f', 'e',  
                            'i', 'n', 'a', 't', 'e', 'd'};  
  
        char[] copyTo = java.util.Arrays.copyOfRange(copyFrom, 2, 9);  
  
        System.out.println(new String(copyTo));  
    }  
}
```


Some methods of Array class

- `binarySearch()`
- `equals()`
- `fill()`
- `sort()`
- `parallelSort()`



- The term "instance variable" is another name for ____.

- The term "class variable" is another name for ?

- A local variable stores temporary state; it is declared inside a_____

- A variable declared within the opening and closing parenthesis of a method is called a _____

- What are the eight primitive data types supported by the Java programming language?

- Character strings are represented by the class _____

- An _____ is a container object that holds a fixed number of values of a single type.
-

Thanks