

What is Programming Language ?

Agenda:

1. Programming
2. Types of programming lang.
3. What is Java ?
4. Features of Java ?
5. Coding .

Language

mode of communication

Programming Language

A lang. that a programmer should know
in order to communicate with
Computer

Eg: C, C++, Python, Java,
Javascript, ruby, etc.

Specific Task

→ A set of instruction

Eg: How to make a maggi

- To take a pan
- Fill water
- Boiled the water
- Maggi + masala
- Boil it
- Serve and taste

Web Application, Desktop Application,
Mobile Applications, websites

Types of Programming Language:

High Level Prog. Lang

1. Programming friendly lang.

→ {Java / C++ , Python}

2. Less memory efficient



More space

Less efficient



3. Easy to understand

4. Easy to debug

eg ✓ Grammatically



finding
out all the mistake

5. Easy to maintain

Low Level Prog. Lang

1. Machine Friendly lang.

→ {01010100 11} → decode
Binary lang.



2. More Memory Efficient

Binary Code
1 kB
less space

3. Difficult to understand

4. Complex to debug



5. Difficult to maintain

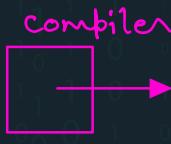
Interpreter Vs Compiler



Code



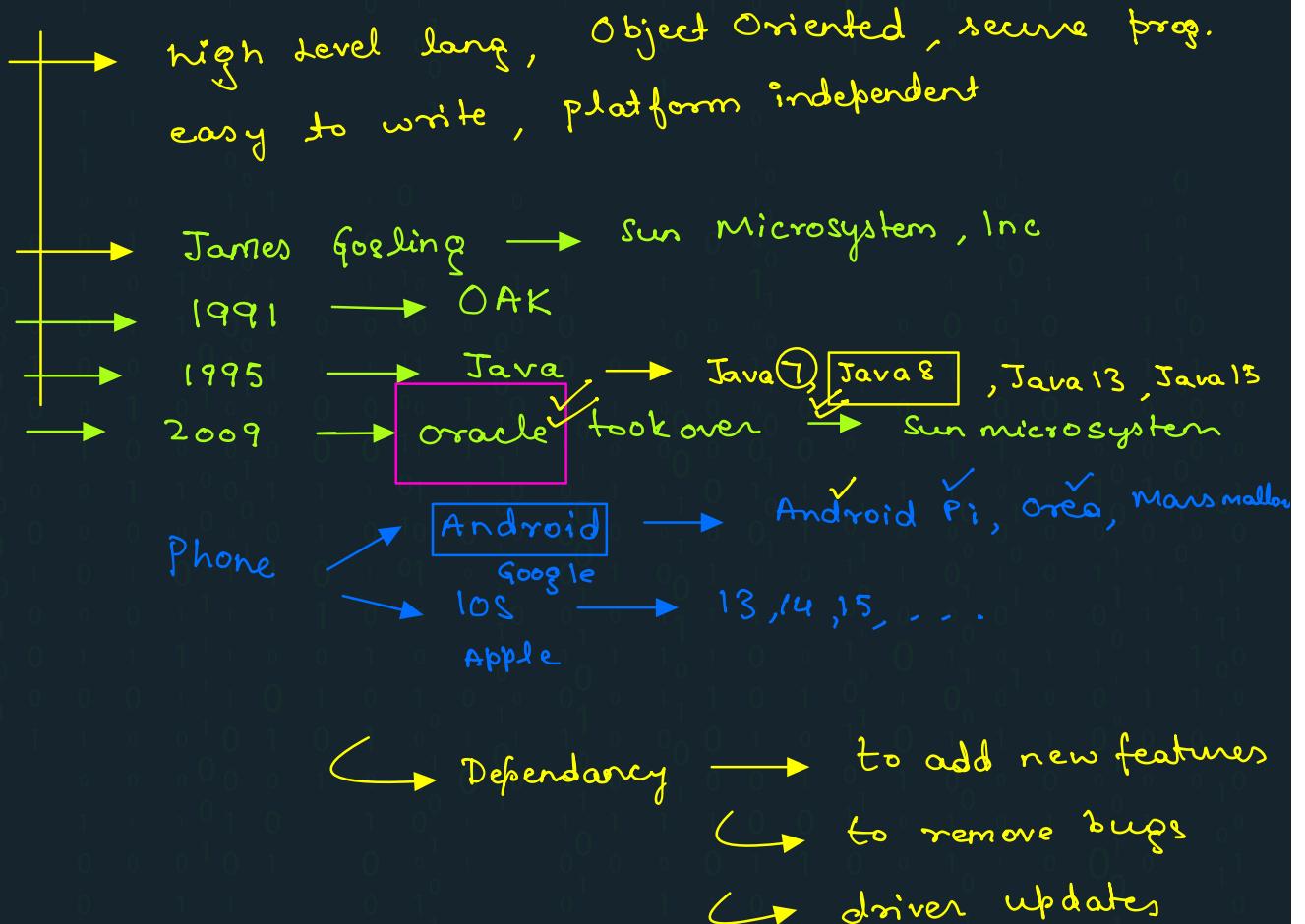
reflect that error



compiler

compilation
error was mentioned
□ line no. resolve
run the programme

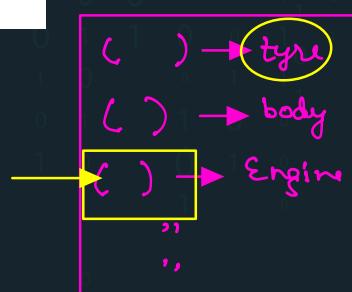
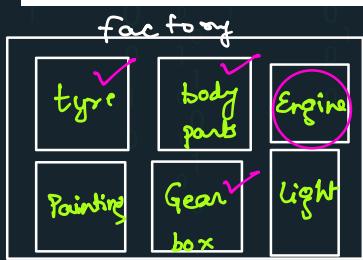
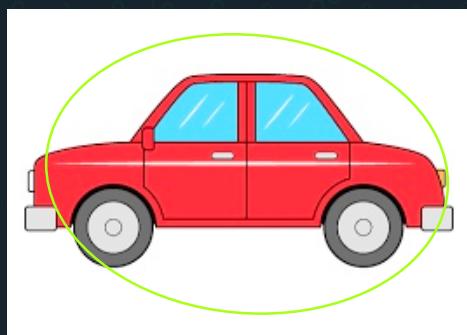
What is Java?



Features of Java?

 Simple : Syntax is simple, clear, and easy to understand.

Object Oriented :



Classes & Objects

4 pillar

Platform Independent

Java

Java program



Byte }
Code }

Linux OS

Window os

Mac OS

Tip

The only way to get better in programming
is by Writing code.

```
2 public class Main {
3     public static void main(String[] args) {
4     }
5 }
```

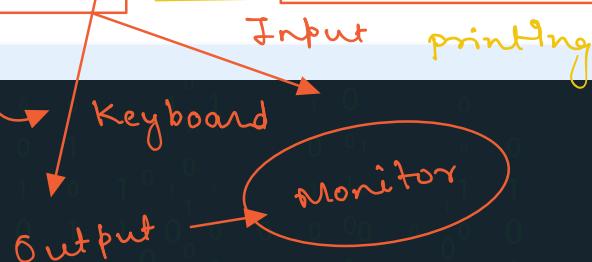
boilerplate

Note : 1. Every valid Java Program must have a class .

2. Main method must be inside the class def.

Printing the Output.

```
ic static void main(String[] args) {
System.out.println("Hello Geekster!It is a fun loving lecture!");
```



Compilation Error

Finished in N/A

Line 4: error: ';' expected [in Main.java]
System.out.println("Hello World")

print() VS println()

```
print("krishna"); → krishna
println("krishna"); → krishna
      ↘ moving to
      ↘ the new line
```

```
→ System.out.println("Hello World");
→ System.out.println("Hello Geekster");
→ System.out.print("Hello");
→ System.out.print("Everyone");
```

println()
print()
+
new line

Output

```
Hello World
→ Hello Geekster
→ Hello Everyone
```

print vs "println()"
+ '\n'

```
System.out.println("Hello World");
System.out.println("Hello Geekster");
System.out.print("Hello\n");
System.out.print("Everyone");
System.out.print("!");
```

Finished in 80 ms

```
Hello World
Hello Geekster
Hello
Everyone!
```

Challenges :

```
print"Hello World. I am here."
```

[Problem](#)[Submissions](#)[Leaderboard](#)[Discussions](#)

Welcome to the world of Java! In this challenge, we practice printing the stdout. You have to print the line "Hello World. I am here."

```
System.out.println(" ____");
```

```
System.out.println("Hello World. I am here.");
```

print the pattern-1

[Problem](#)[Submissions](#)[Leaderboard](#)[Discussions](#)

In this challenge you have to print "Hello World. I am here." in the pattern shown below.

```
Hello  
World.  
I  
am  
here.
```

```
println(Hello);  
,,  
,,  
,,  
println(here);
```

print(Hello\nWorld.\nI\nam\nhere.\n);

```
System.out.print("Hello\nWorld.\nI\nam\nhere.\n");
```

```
/* Enter your code here */  
System.out.println("Hello");  
System.out.println("World.");  
System.out.println("I");  
System.out.println("am");  
System.out.println("here.");
```

print star pattern-1

[Problem](#)[Submissions](#)[Leaderboard](#)

In this challenge, you have to print the star pattern given below.

```
print ("*****");  
public static void main(String[] args) {  
    /* Enter your code here. Read  
    System.out.println("*****");
```

print star pattern-2

[Problem](#)[Submissions](#)[Leaderboard](#)[Discussions](#)

In this challenge, you have to print the star pattern given below.


```
println("****");  
"  
,  
System.out.println("*****");  
System.out.println("*****");  
System.out.println("*****");
```

```
System.out.print("*****\n*****\n*****");
```

print star pattern-3

[Problem](#)[Submissions](#)[Leaderboard](#)[Discuss](#)

In this challenge, you have to print the star pattern given below.

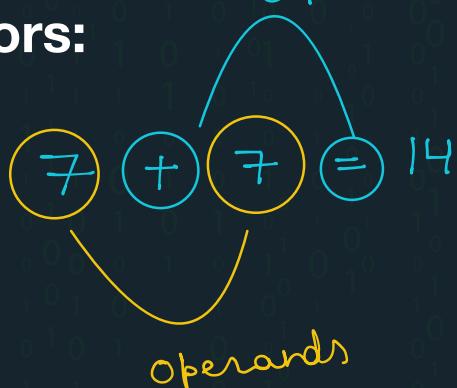
```
*****  
*  
*  
*  
*****
```

```
public static void main(String[] args)  
{  
    /* Enter your code here. Read input from STDIN. Print output to STDOUT */  
    System.out.println("*****");  
    System.out.println("*");  
    System.out.println("*");  
    System.out.println("*");  
    System.out.println("*****");  
}
```

```
System.out.print("*****\n* \n* \n* \n*****");
```

6 operators

Operators:



division
quotient

$$\begin{array}{r}
 33393 \div 10 \\
 \hline
 3339 \quad \text{---} \\
 10 \sqrt{33393} \\
 \hline
 30 \\
 33 \quad \text{---} \\
 30 \\
 39 \quad \text{---} \\
 30 \\
 93 \quad \text{---} \\
 90 \\
 3
 \end{array}$$

remainder
'%'

$33393 \% 10$

Increment & Decrement

e

$$x = 7$$

$$(x++) \rightarrow 7 + 1 = 8$$

$$(x--) \rightarrow x - 1 \Rightarrow 7 - 1 = 6$$

operator

Compressed Expansion

$$12 \cancel{24} 8 \overline{10} 5$$

$$x = 7$$

=	$x = 7$	$x = 7$
$+=$	$x += 3$	$x = x + 3$ $7 + 3 = 10$
$-=$	$x -= 2$	$x = x - 2$ $10 - 2 = 8$
$*=$	$x *= 3$	$x = x * 3$ $8 * 3 = 24$
$/=$	$x /= 2$	$x = x / 2$ $24 / 2 = 12$
$%=$	$x \% = 7$	$x = x \% 7$ $12 \% 7 = 5$