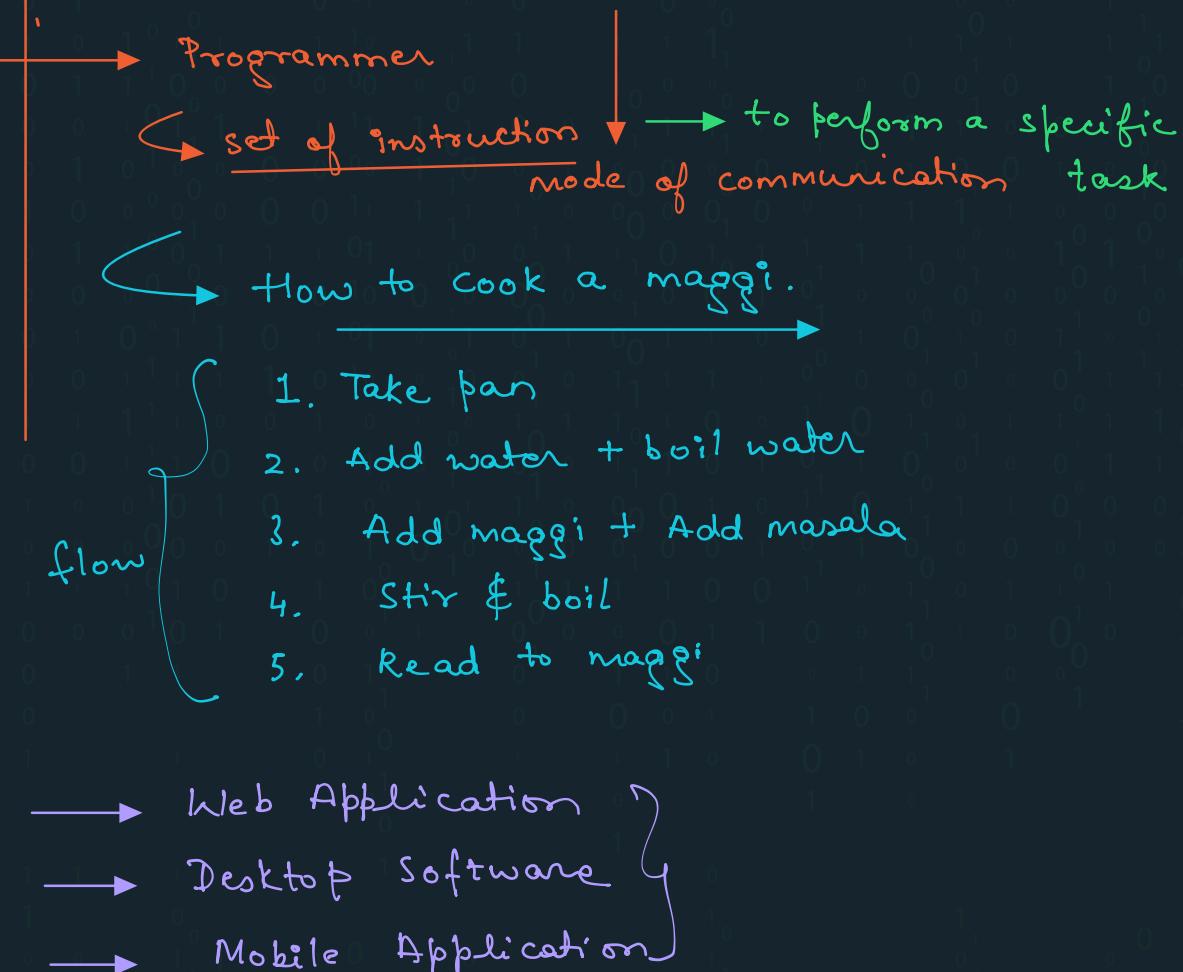


What is Programming Language?



Eg → **Java, C, C++, python, Javascript, Golang, etc.**

→ **Types of Programming**

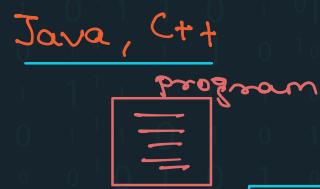
→ **What is Java ?**

→ **Features of Java**

Types of Programming Language?

High Level Prop. Lang

1. Programming friendly Language



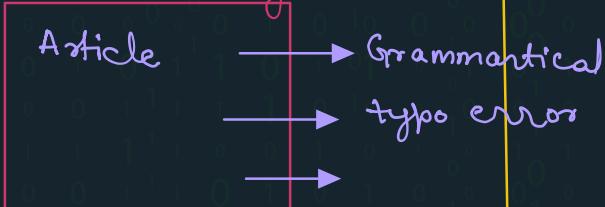
2. ✓ Less Memory Efficient



3. Easy to understand

4. Simple to debug ✓

✓ Grammatically ✓

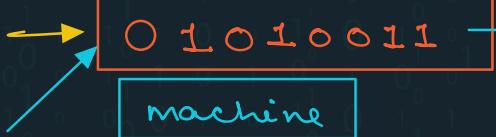


5. Simple to maintain

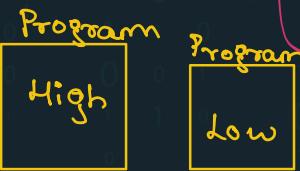
Low Level

1. Machine friendly language.

→ Binary Lang.



2. More memory efficient application



5KB-10KB more space

1 byte less space

5 min

100 MB

↓

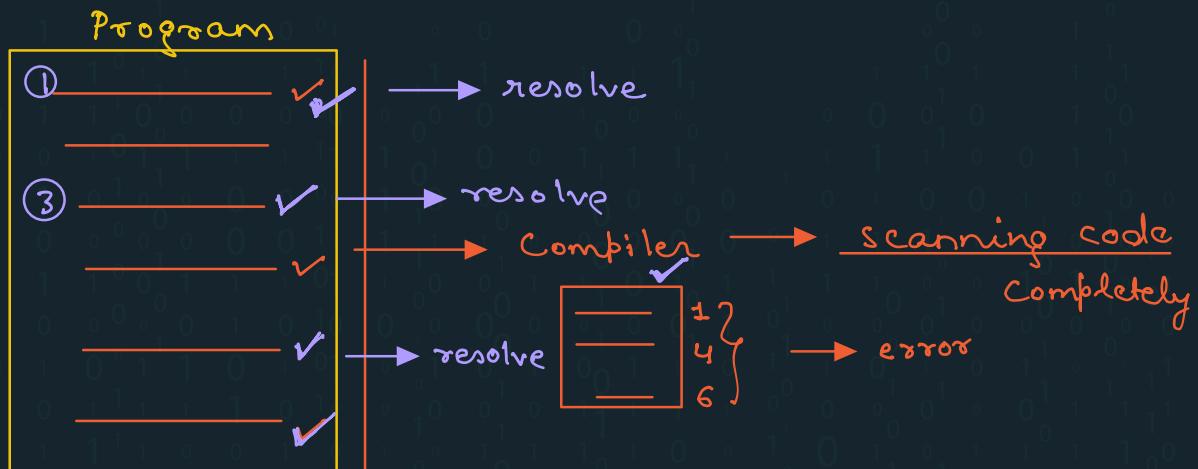
↓

3. Complex to understand

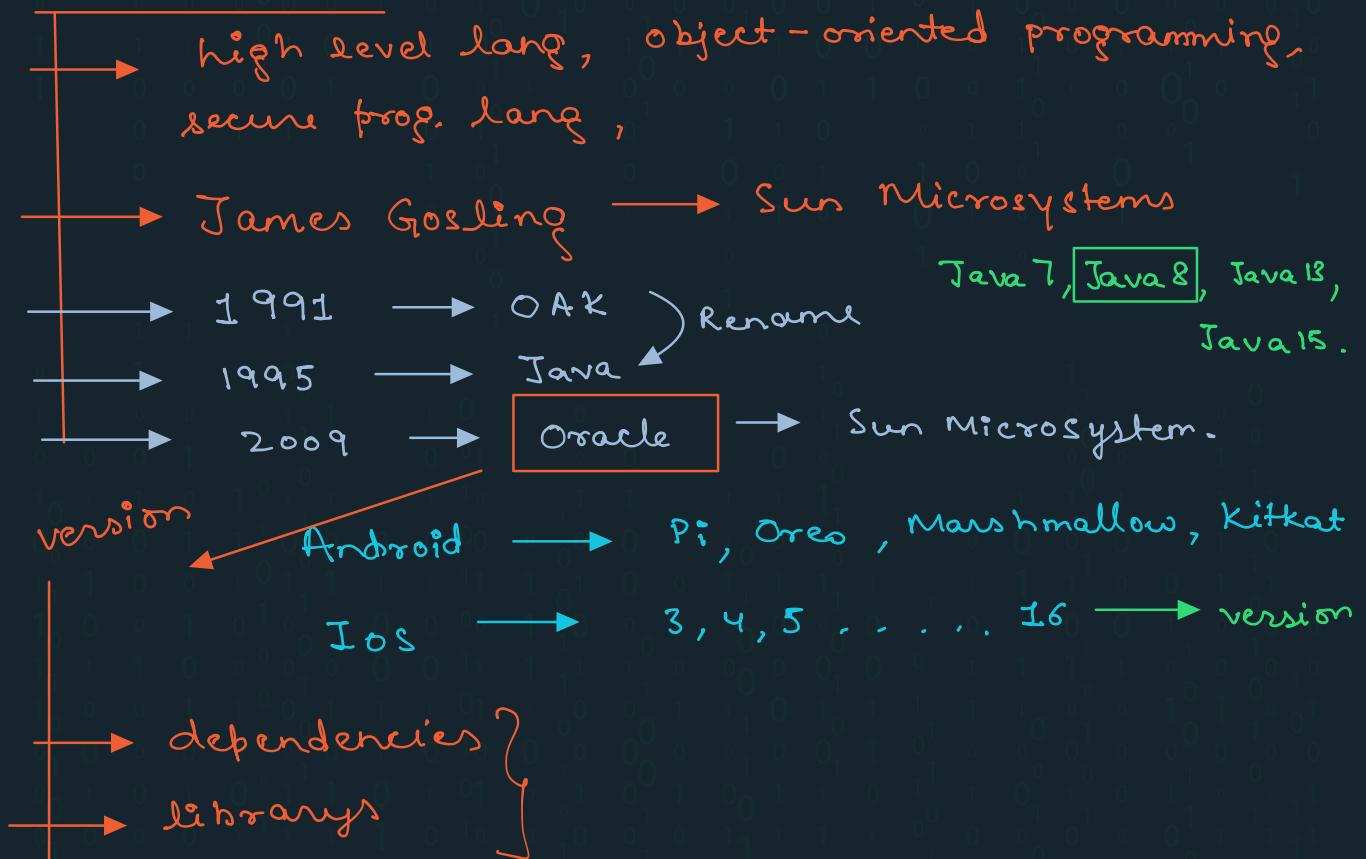
4. Complex to debug.

5. Complex to maintain

Compiler VS Interpreter. [line by line]



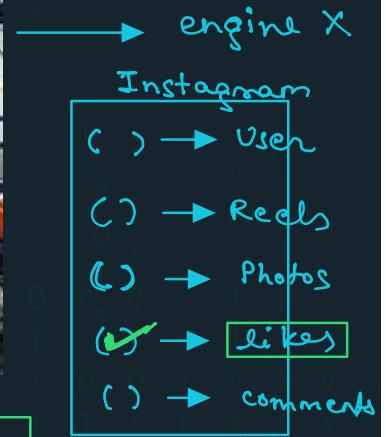
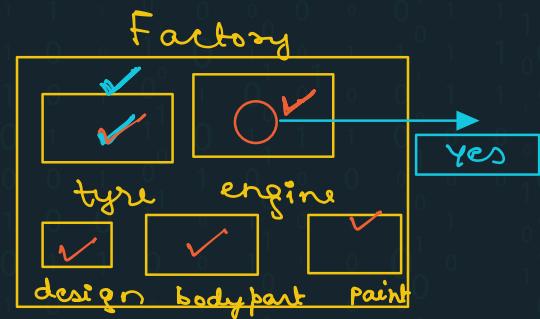
What is Java?



Features of Java?

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

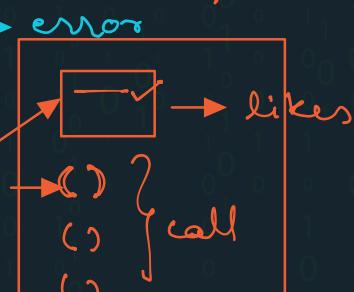
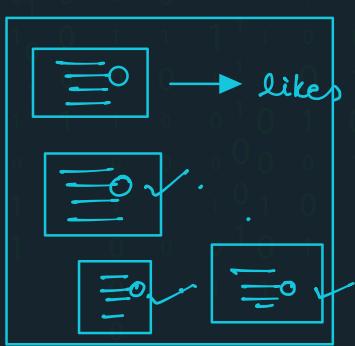
Object - Oriented Programming.



privacy

classes & Object

Dry



→ Platform Independent

High Level
Java
Program

Compile

low level
Byte
Code

Windows

Linux OS

Mac
OS



By writing code → Beginner.

```
public class Main {
    public static void main(String[] args) {
        // write your code here → comment
    }
}
```

Resume

Template

output

System.out.println();

File name

Computer

```
public class Main {
    public static void main(String[] args) {
        // write your code here
        System.out.println("Hello World"); → Hello World
    }
}
```

Finished in N/A

Line 5: error: ';' expected [in Main.java]
System.out.println("Hello World")
^

print() VS println()

```

System.out.println("Hello World");
System.out.println("Hello Everyone");
System.out.println("Hello Geekster!");

```

Hello World
 → Hello Everyone
 → Hello Geekster!

```

System.out.print("Hello World");
System.out.print("Hello Everyone");
System.out.print("Hello Geekster!");

```

✓ print()
 + '\n' → ✓ println()

```

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

```

print() + \n == println()
 " " → Compiler → text

Arithmetic Operators:

- + (Addition)
- * (Multiplication)
- - (Subtraction)
- / (Division) ↗ quotient
- % (Modulo)

Integer → 3, 5, -11

decimal point → 10.79, 11.4

remainder

remainder 10

$$\begin{array}{r} 3356 \\ \downarrow \\ 33569 \end{array}$$

$$\begin{array}{r} 56 \\ 50 \\ \hline 69 \\ 60 \\ \hline 9 \end{array}$$

removing

$$33569 \textcircled{1} 0$$

remainder

9

→

$$319562 \boxed{43}$$

→ 43

→ 43

$$31956243 \% 100$$

319562

$$31956243 / 100$$

→ Even / odd

$$21 \textcircled{ \% } 2$$

→ ans

→ 0

→ even

→ 1

→ odd

Hacker-Rank 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."

```
2 import java.util.*;
3
4 public class Solution {
5
6     public static void main(String[] args) {
7         /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your
8            System.out.println("Hello World. I am here.");
9     }
0 }
```

print the pattern-1

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

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

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

```
4 public class Solution {
5
6     public static void main(String[] args) {
7         /* Enter your code here. Read input
8            System.out.println("Hello");
9            System.out.println("World.");
10           System.out.println("I");
11           System.out.println("am");
12           System.out.println("here.");
13
14 }
```

print star pattern-1

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

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

print star pattern-2

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

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

print star pattern-3

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

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

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

```
/* Enter your code here. Read input from  
System.out.println("*****");  
System.out.println("*");  
System.out.println("*");  
System.out.println("*");  
System.out.println("*****");
```

→ Increment / Decrement

$x = 7 \checkmark$

$y = 9 \checkmark$

$x++$

$x = 8 \checkmark$

$y-- \checkmark$

$y = 8 \checkmark$

→ Increment
pre - Increment

post - Increment

→ Decrement

pre - Decrement

post - Decrement

Others Operators:

Compress ✓

$$x = \underline{7} \quad \underline{11} \quad \underline{32} \quad 1$$

Expansion ✓

| | | |
|--------|-----------------------|------------------------------|
| $=$ | $x = 7$ | $x = 7$ |
| $+=$ | $x \underline{+} = 4$ | $x = \underline{7} + 4 = 11$ |
| $-=$ | $x - = 3$ | $x = \underline{x} - 3 = 8$ |
| $*=$ | $x * = 4$ | $x = \underline{x} * 4 = 32$ |
| $/=$ | $x / = 10$ | $x = x / 10 = 3$ |
| $\% =$ | $x \% = 2$ | $x = x \% 2 = 3 \% 2 = 1$ |

$$\begin{array}{|c|c|} \hline & x++ \\ \hline & x-- \\ \hline \end{array} \rightarrow x += 1 \quad \left. \begin{array}{|c|c|} \hline & x += 7 \\ \hline & x -= 3 \\ \hline \end{array} \right\} \rightarrow x += 7$$

$$\left. \begin{array}{|c|c|} \hline & x -= 3 \\ \hline \end{array} \right\}$$