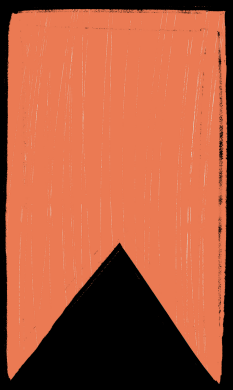
Programming Language



Mode of communication

- Java ✓
- C
- C++
- Python ✓ → data
  - ↳ data Engineering
  - ↳ data Scientist
  - ↳ ML Engineer
  - ↳ data Analyst
- Php
- Swift
- Go lang
- Javascript
- .net
- C#

- IOS - 12
- Android - 13

What is Java ? Java 7, Java 8, Java 13, Java 15

- Java is a high level lang.
- oops, secure,
- James Gosling at Sun Microsystem
- 1991 → OAK lang.
- 1995 → Java
- In 2009 → Oracle → Java

Types of programming Lang.

High Level

- programmers friendly ✓
- Java, C, C++
  - ↳ Syntax → English
- Less Memory Efficient
  - ↳ More Space
- Easy to Understand

Low Level

- Machine Friendly
- 0/1 → Binary

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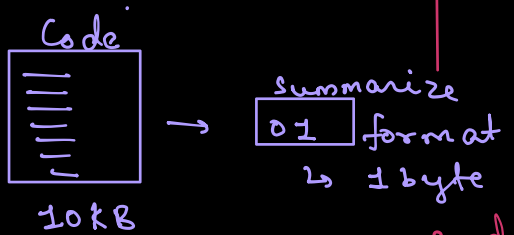
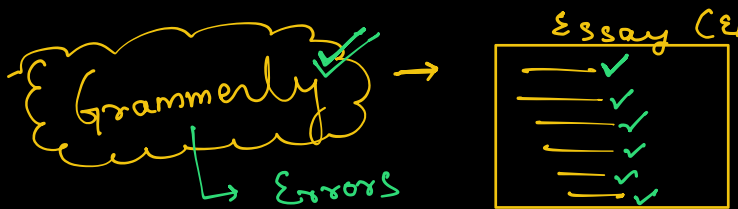
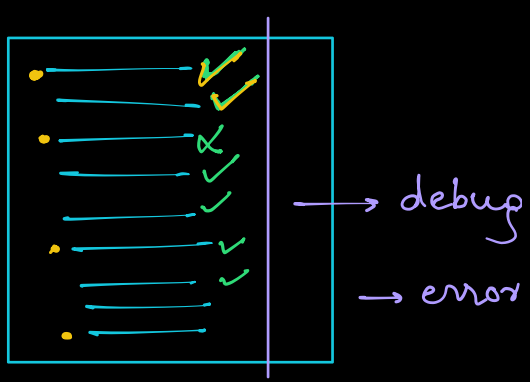
- More Memory Efficient
  - ↳ less space ✓
- Tough to Understand



- It is easy to debug → find
- It is difficult to debug



- Interpreter Vs Compiler
  - ↓ line by line debugging
  - ↳ after reading complete code

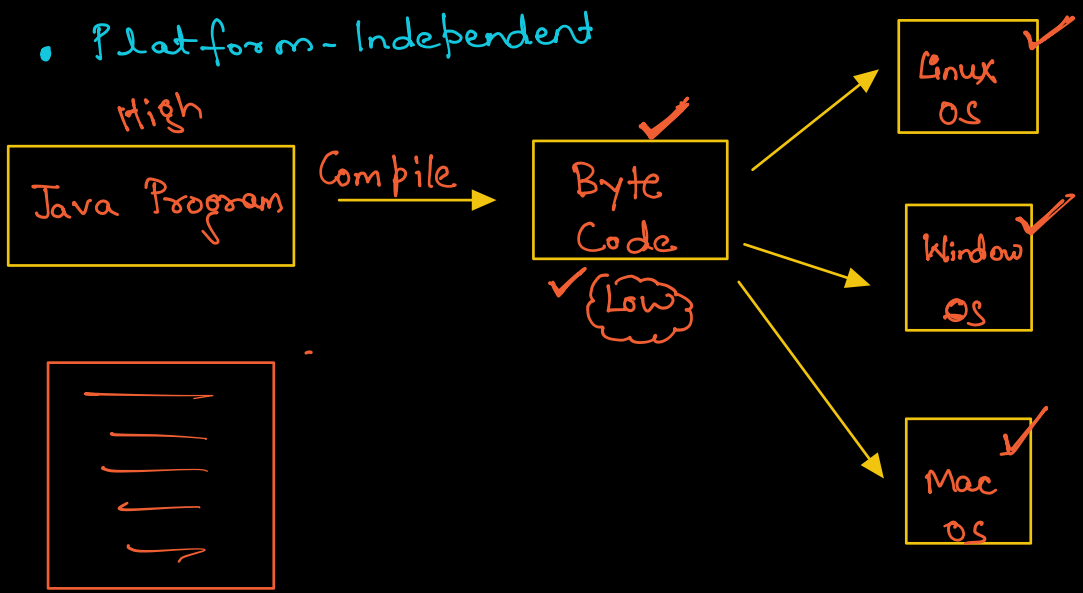


Features of Java

- Simple → Syntax is simple, clean code, easy to understand.
- Object-Oriented →
  - tyre factory
  - painting
  - Engine
  - Gear-box
  - Glasses
  - Others

- ✓Classes & Objects✓

- Secure
- Platform-Independent



→ The only way you can get better with the programming is by writing code.

- Writing Code
- Output
- Input

Boilerplate template

```
1  // "static void main" must be defined in a pu
2  public class Main {
3      public static void main(String[] args) {
4          // code
5      }
6  }
```

✓ → Resume

→ predefined template

```java
// "static void main" must be defined in a p
public class Main {
    public static void main(String[] args) {
        System.out.println("Hello World");
    }
}
```

System → output
out → output
println → printing an output

```
Finished in N/A
Line 4: error: ';' expected [in Main.java]
        System.out.println("Hello Geekster")
```

Running our code

Compilation Error

System.out.println(); → print + next line

System.out.print(); → print

```java
System.out.println("Hello Geekster");
System.out.print("Hi");
System.out.print("Everyone");
```

→ Hello Geekster
→ HiEveryone

```
public static void main(String[] args) {
    System.out.println("Hello Geekster");
    System.out.print("Hi");
    System.out.print("Everyone");
    System.out.println("!");
    System.out.println("Bye!");
```

println → print + next line

print → print in the same line

Hello Geekster

→ Hi Everyone!

→ Bye!

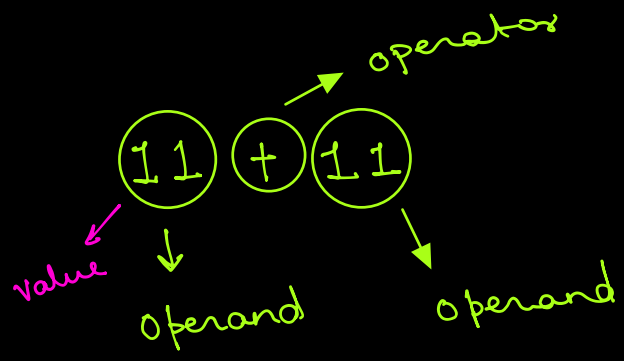
→

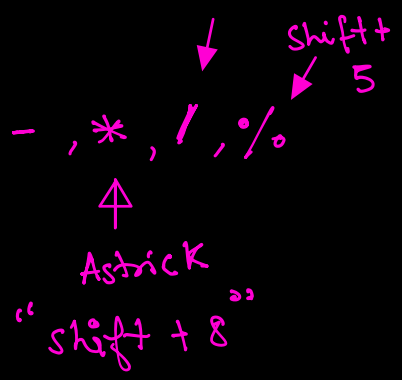
print + "\n" ≡ println()

```
public static void main(String[] args) {
    System.out.println("Hello Geekster");
    System.out.print("Hi");
    System.out.print("Everyone\n");
    System.out.println("!");
    System.out.println("Bye!");
}
```

≡ println()

```
Finished in 87 ms
Hello Geekster
HiEveryone
!
Bye!
```





Challenges

1) Print "Hello World. I am here."

2) Print the below pattern

Hello
World.
I
am
here.

3) Print *****

4) Print the below pattern

*****
*****
*****

5) Print the below pattern

***** 5 star
* 1 star
* 1 star
* 1 star
***** 5 star

6) Add two numbers 10,20.

-Multiply three numbers 10,20,30.

-Subtract two numbers 40-20.

```java
public class Main {
    public static void main(String[] args) {
        System.out.println("Hello World. I am here.");
    }
}
```

```java
// "static void main" must be defined in a public class.
public class Main {
    public static void main(String[] args) {
        System.out.println("Hello");
        System.out.println("World.");
        System.out.println("I");
        System.out.println("am");
        System.out.println("here.");

    }
}
```

```java
// "static void main" must be defined in a public c
public class Main {
    public static void main(String[] args) {
        System.out.println("*****");
    }
}
```

```java
// "static void main" must be defined in a public c
public class Main {
    public static void main(String[] args) {
        System.out.println("*****");
        System.out.println("*****");
        System.out.println("*****");

    }
}
```

```java
// "static void main" must be defined in a public c
public class Main {
    public static void main(String[] args) {
        System.out.println("*****");
        System.out.println("*");
        System.out.println("*");
        System.out.println("*");
        System.out.println("*****");

    }
}
```

```java
// "static void main" must be defined in a public
public class Main {
    public static void main(String[] args) {
        System.out.println(10 + 20);
    }
}
```

```java
// "static void main" must be defined in a public
public class Main {
    public static void main(String[] args) {
        System.out.println(10 * 20 * 30);
    }
}
```

```java
// "static void main" must be defined in a public
public class Main {
    public static void main(String[] args) {
        System.out.println(40-20);
    }
}
```