Important properties Of Java
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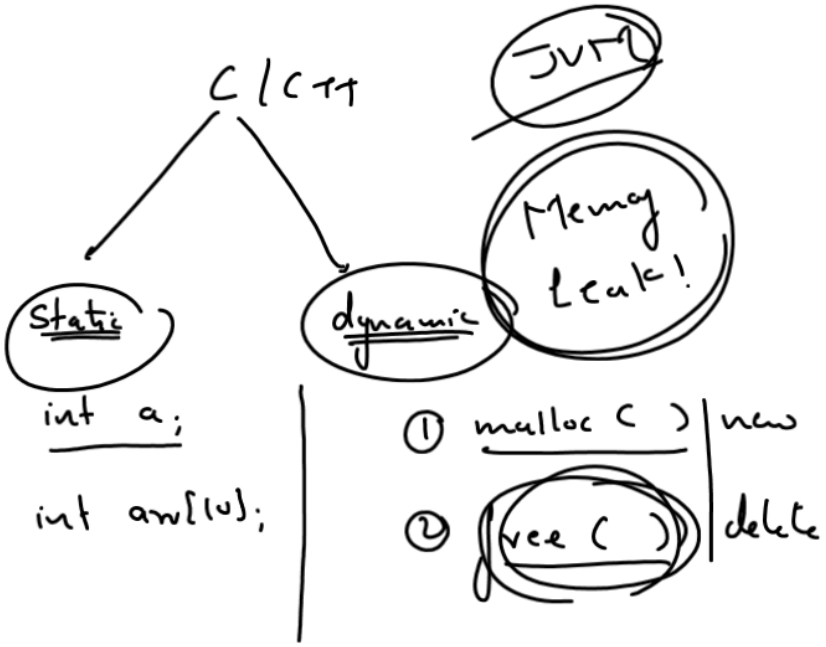
① Platform Independent

② Automatic Memory Mgmt



2. Automatic Memory Management
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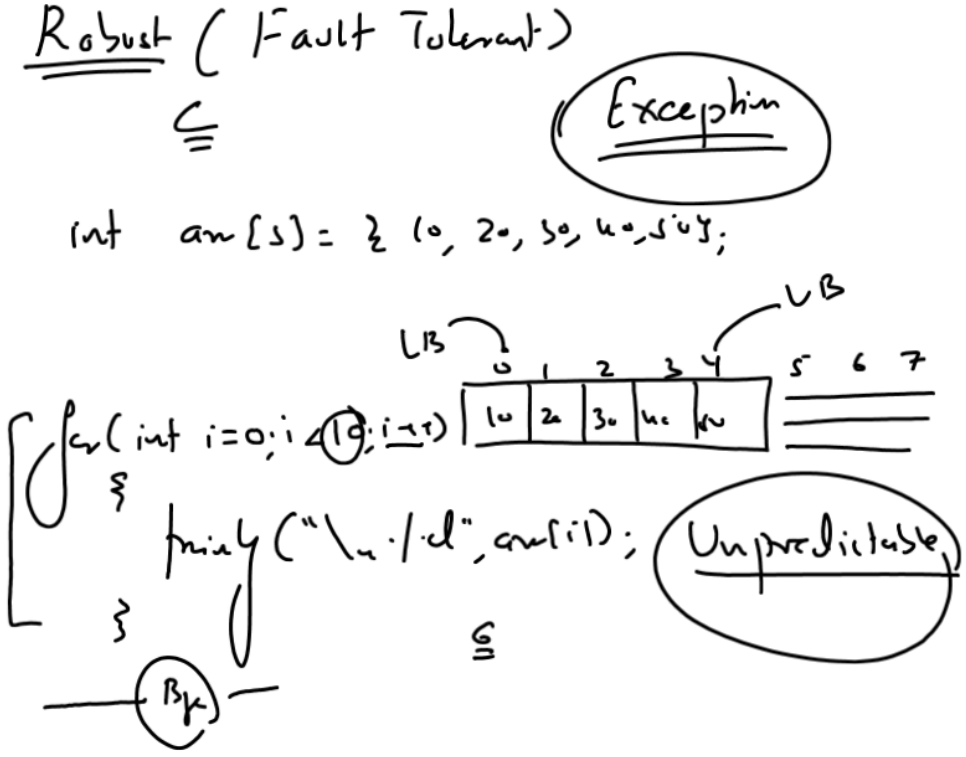
Java has very good automatic memory management. It means that in a Java application a programmer only has to request for memory allocation while it's deallocation is automatically handled by the **JVM.** So a Java developer is more relaxed as compare to a C or C++ developer becasue deallocation of memory chunks is JVM's responsibility. Moreover due to this a Java program is safe from errors like **MEMORY LEAK**



3. Robust (Fault tolerant)
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Java has some very strict rule which every programmer must follow and if these rules are broken then JVM kills the program by generating **EXCEPTION**

For example: In Java we are not allowed to cross boundries of an Array and if by mistake will do so then Java will kill our code by generating Exception

Benefits
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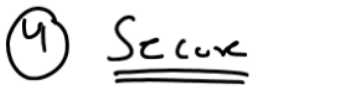
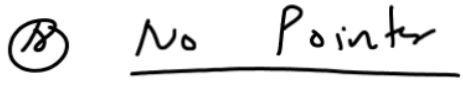
The benefit of this behavior is that other running program and the OS itself remain safe and secure





4. Sucure
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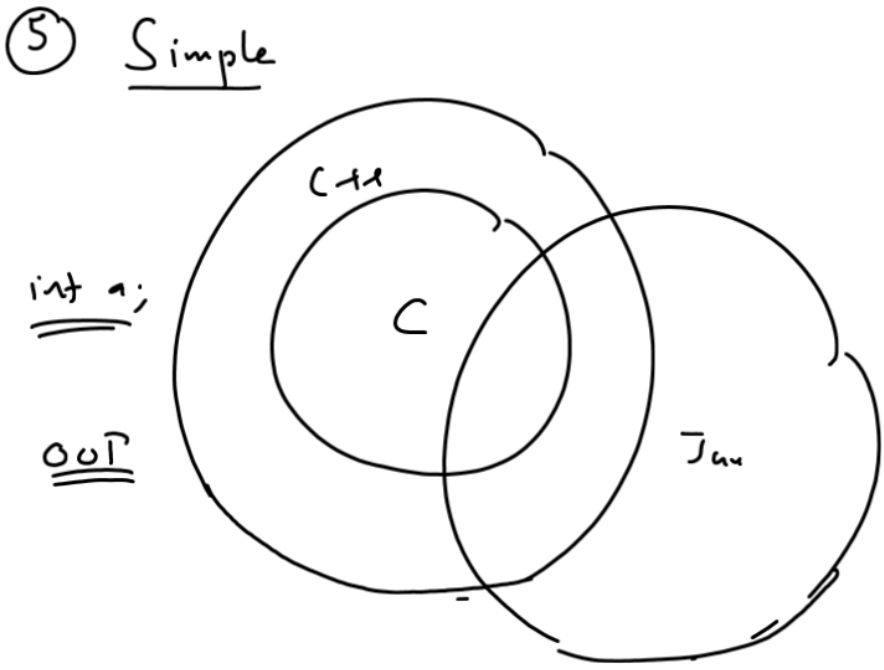
Java has been designed mainly for Internet and Internet is a open network and we know that due to this sucurity is a big issue for programs running on internet

Java has beatifully tackaled by

1. by restrciting the programmer from directly accessing any address.

For example: **POINTERS ARE NOT PRESENT IN JAVA**

2. By not allowing the program to directly interact with the OS



5. Simple
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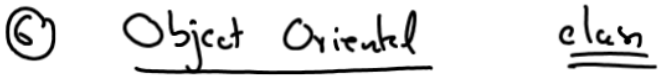
Java has borrowed it's maximum syntax (around 80%) from languages like C and C++. For example topics like data types, Operators, Control Statements, Loops, Functions, Arrays etc. are also present in Java with almost same syntax as C and C++. So if a programmer has basic understanding of these languages he can easily easily learn Java and so we can say Java is a Simple langauge.



6. OOP
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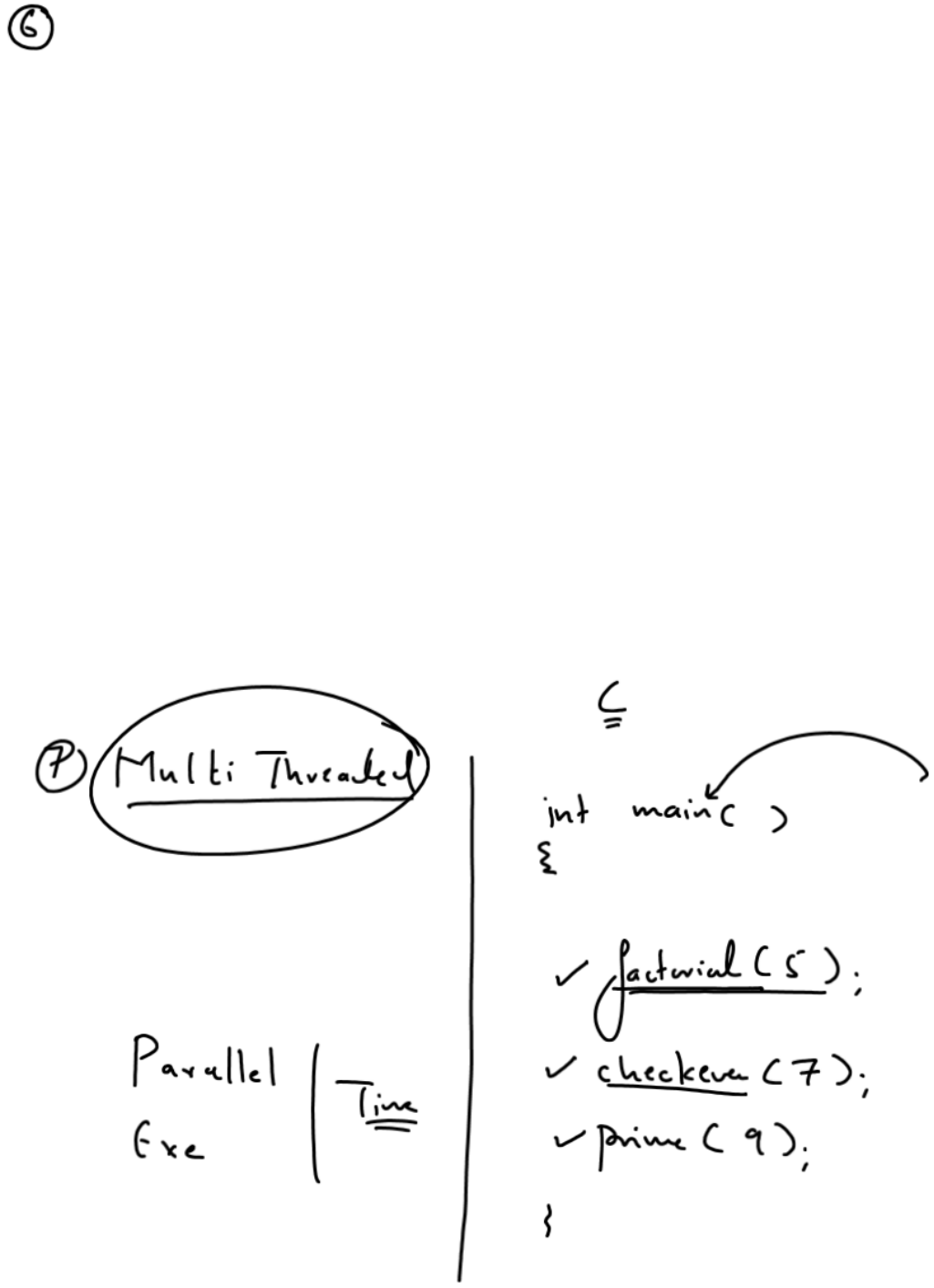
Java strictly follows rules of OOP. For example it is compulsory for us to use **class** in every program we write in Java . So OOPs topic like Encapsulation, Inheritance, Polymorphism, Abstraction etc are strictly followed by Java



7. Multithreading

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Multithreading means parrallel execution that is a multithreading program executes several task together.
For example in a browser we can parrallely open multiple tabs and each tabs we can open a website

In a music player there are many activities done together like

a. Playing the song
b. Running of a timer to show how much song has been played
c. Running of a slider showing song progress
d. Allowing the user to control volume level while song is played
e. Allowing the user to add or remove songs in the play list while a song is played

All the above activities are executing together in one single program and this is called multithreading.
Since Java has built-in support for multithreading so program like games, chat application, music players etc can be easily developed in Java