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وعلي اله وأصحابه أجمعين

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Mohammed Abu-Hadhoud
MBA, PMOC, PgMP®, PMP®, PMI-RMP®, CM, ITILF, MCPD, MCSD

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لتعم الفائدة للجميع وانقاذ الاف الناس من التشتت جزاكم الله خيرا
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اساسيات مهمه لكل مبرمج

لماذا يجب البدء بلغة سي++؟

C++ = Salary++



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Computer Foundations

What is C++?



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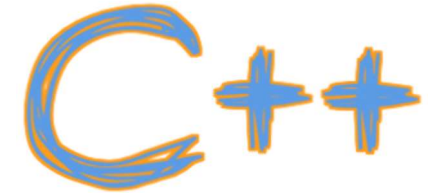
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What/Why C++?

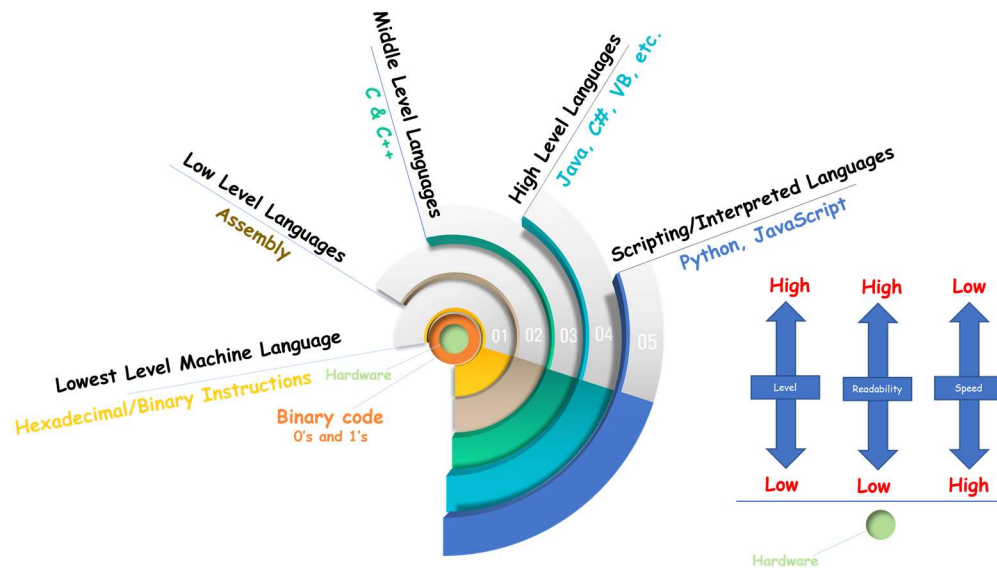
operaring system بنستخدمه علي اكثر من  علي عكس فيجوال باسيك علي ويندوز بس و عشان تروح لماك مثلا يلزم سورس كود مختلف

- C++ is a **cross-platform/Portable language** that can be used to create high-performance applications that can be adapted to multiple platforms
- C++ is fun and easy to learn!
- C++ is the mother of all languages. *C or C++ لان كل اللغات مبنيه علي اساسها*
- It Supports Procedural & OOP programming.
- It will force you learn basic programming concepts.
- If you learn it very well, you can learn any other programming language in less than a month's time.



What/Why C++?

- Both C and C++ are considered Mid-level languages that are close to hardware and are able to program and manipulate the underlying hardware resources.
- C and C++ have full control on computer resources such as memory, no automatic memory management.



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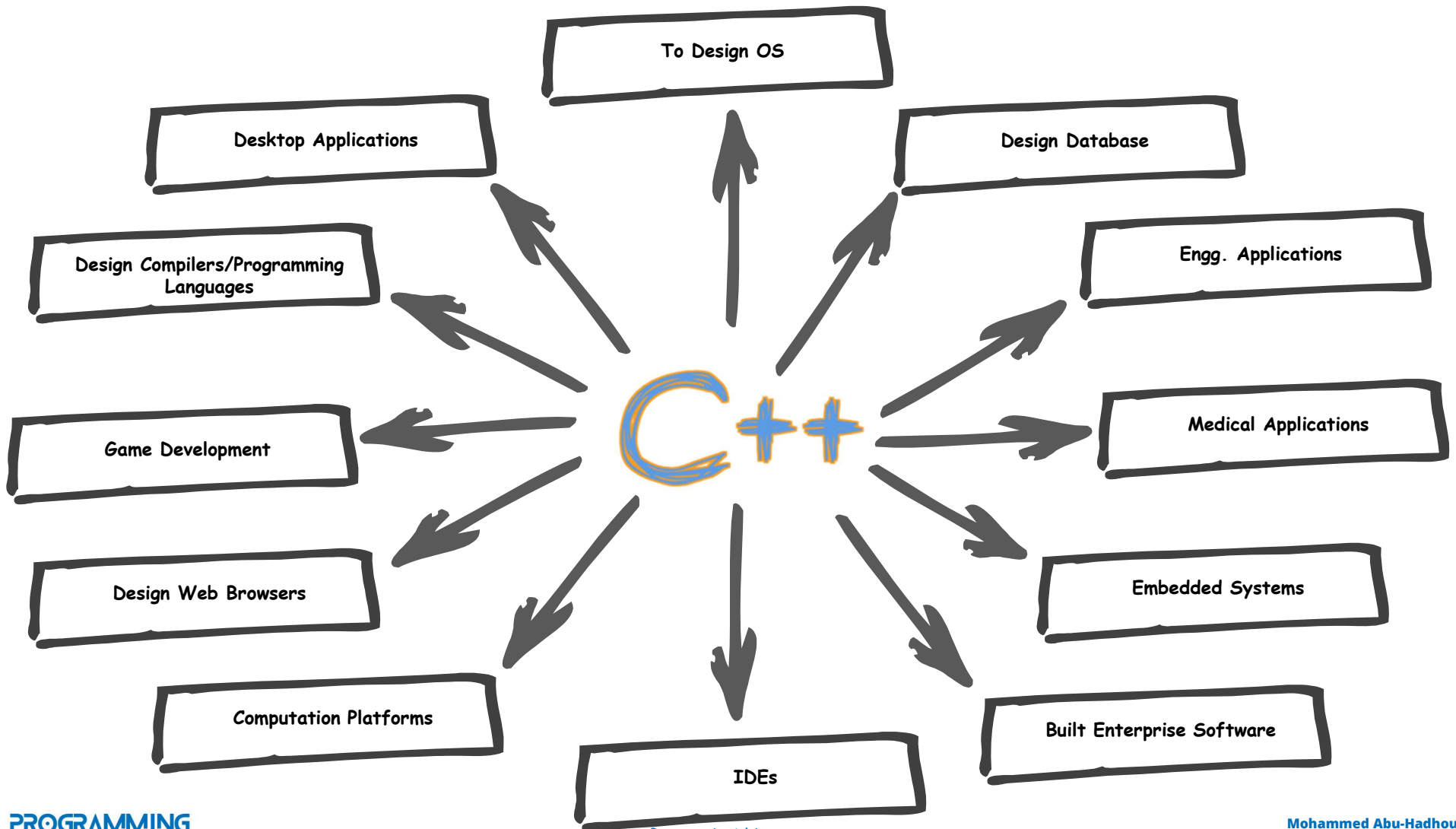
Computer Foundations What can you do with C++?

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Real Things done using C++



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Operating Systems:



Most of the software from Microsoft is developed using C++ (flavors of Visual C++). Applications like **Windows 95, ME, 98; XP**, etc. are written in C++.



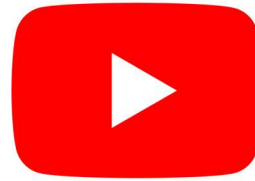
Apple OS X has some of its parts written in C++. Similarly, some parts of the iPod are also written in C++.

Applications:

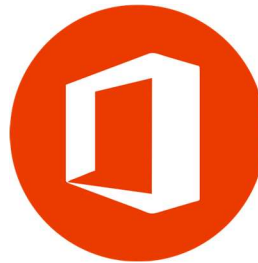


Adobe

Most of the applications of the adobe systems including **Illustrator, Photoshop, etc.**



Core Functions are written in C++



Microsoft products like **Word, Excel, PowerPoint...etc**



Amazon was primarily written in C++. Now C++ is mainly responsible for processing requests.

Browsers:

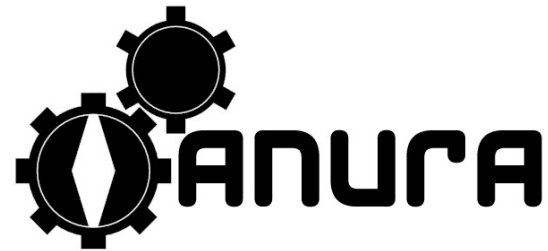


Databases:



Gaming Engines:

A game engine is a dedicated software or an architecture, or program that developers use for creating games

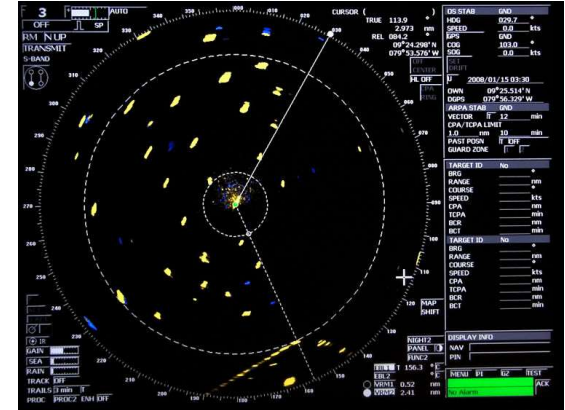


IDEs:



Enterprise Software

C++ is used in developing many enterprise software as well as advanced applications like **flight simulation** and **radar processing**.



Compilers and Programming Languages

Compilers of various high-level programming languages are written either in C or C++.



Embedded Systems

CARs, Flights, Medical Machines, and others

في تراك اسمہ کدا (*embedded system*)

بيبيقي تركيزه علي تصميم وبناء سيستم وتطويره وكدا

لو حابب ابقى ابحت عنه

Libraries

When we require very high-level mathematical computations, performance and speed become important. Hence most of the libraries use C++ as their core programming language. Most high-level machine language libraries use C++ as backend

C++ is faster than most of the other programming languages and also supports multithreading with concurrency.

Banking Applications

As C++ aids in concurrency, **it becomes the default choice for banking applications** that require multi-threading, concurrency, and high performance.



Infosys Finacle – is a popular core banking application that uses C++ as backend programming languages.

Advanced Computation And Graphics

C++ is useful in developing an application that requires **high-performance image processing, real-time physical simulations**, and **mobile sensor applications** that need high performance and speed.



Maya 3D software from Alias system is developed in C++ and is used for **animation, virtual reality, 3D graphics**, and environments.

Cloud/Distributed Systems

Cloud storage systems that are extensively used nowadays work close to the hardware. C++ becomes a default choice for implementing such systems as it is close to the hardware. C++ also provides multithreading support that can build concurrent applications and load tolerance.

The Bloomberg logo, consisting of the word "Bloomberg" in a white, sans-serif font, centered within a solid black rectangular background.

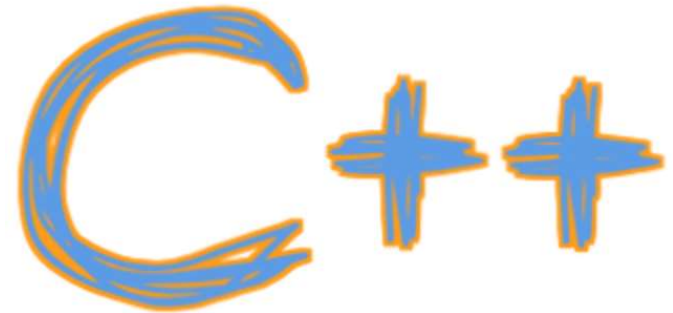
Bloomberg is a distributed RDBMS application that is used for accurately **providing real-time financial information and news to investors**.

While Bloomberg's RDBMS is written in C, its development environment and set of libraries are written in C++.

Therefore, when you talk about...

- Performance
- Speed
- Cross Platform/Adaptable
- High-level mathematical computations
- Multithreading with concurrency

IT's...





Computer Foundations

Why C++ not C?

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C vs C++

Similarities

- Both the languages have a **similar Syntax/Grammar/Code Structure**.
- The **compilation** of both the languages **is similar**.
- Both are **Mid-level languages that are close to hardware** and are able to program and manipulate the underlying hardware resources.

Differences..

C

- C was developed by Dennis Ritchie between the year 1969 and 1973 at AT&T Bell Labs.
- C is a subset of C++.
- Procedural Language.

C++

- C++ was developed by Bjarne Stroustrup in 1979.
- C++ Superset of C.
- Supports both Procedural and OOP.

That's why you should learn C++ not C, it will take the same efforts

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Computer Foundations

Why to start with C++ not JAVA?

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C++ vs Java

- Both the great languages.

However, its recommended to start with C++ because:

C++

Supports both Procedural and OOP.

Java

Supports Only OOP.

That's why you should start with C++, you will learn all types of programming.

Will I work in C++?

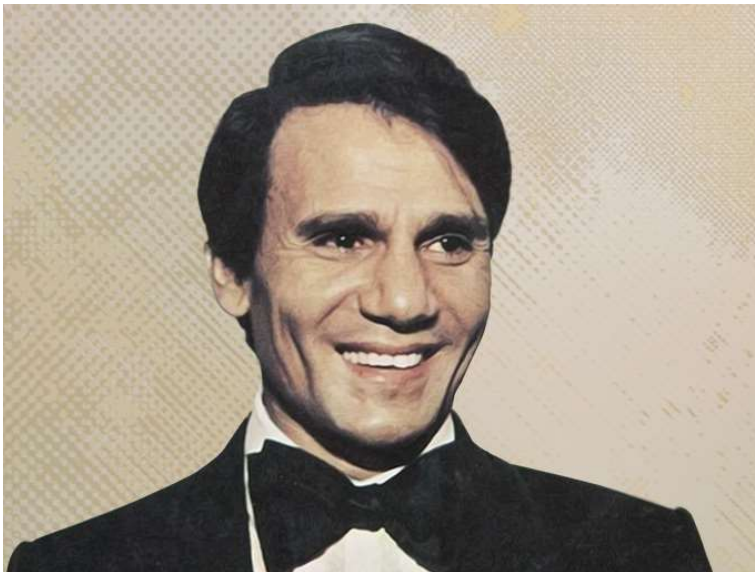


- Yes and No.

Is it outdated and not used



- No, it still widely used for high performance systems.



And remember !!!!!

IF you learn C++,
you can learn any
other programming
language easily in
almost not time.

ميمز السيد البدي 1990 اهي 😂

C++ Developer learning
Python



Python Developer
Learning C++





Thank you 😊