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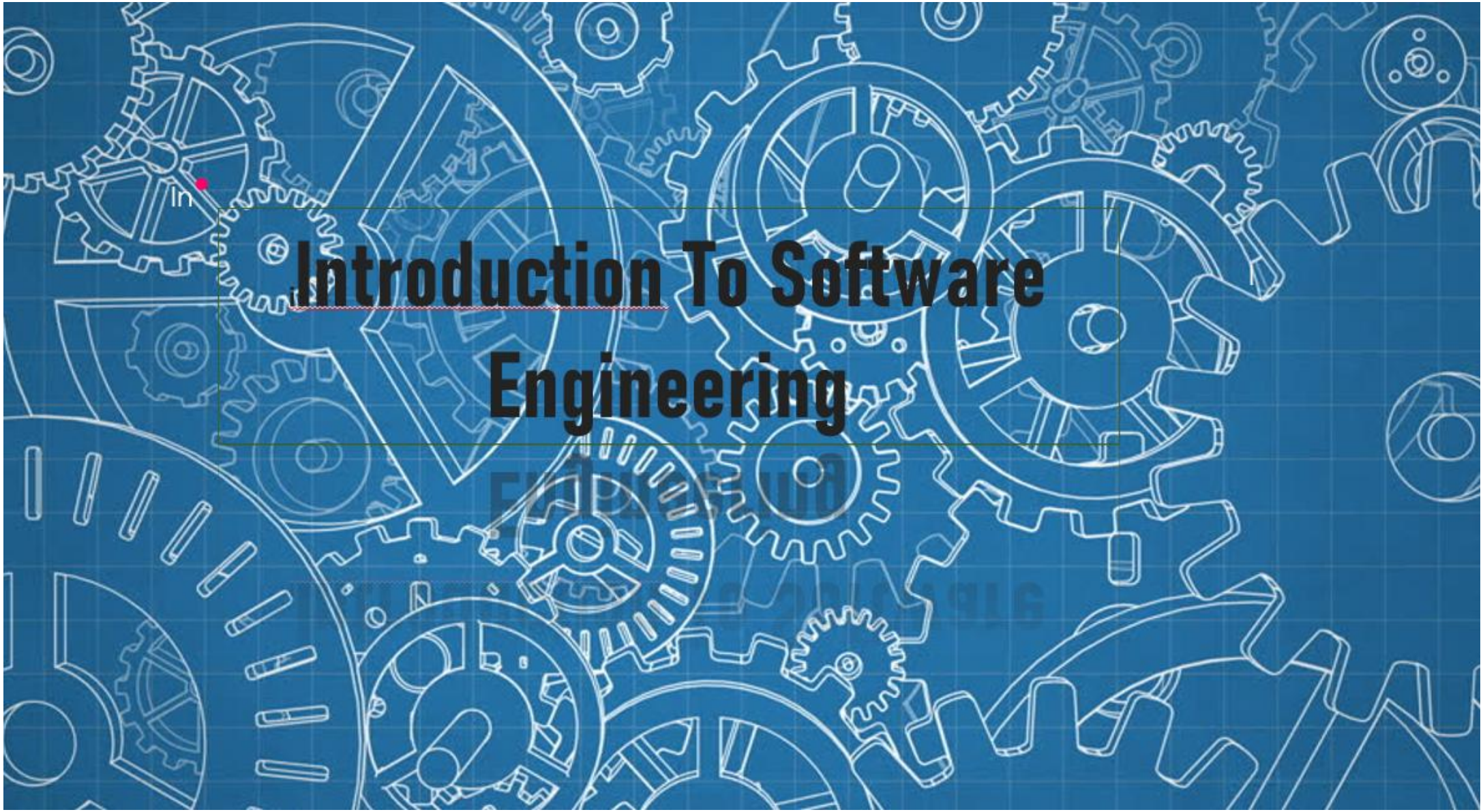
In
Introduction To Software Engineering

What are the peofessional responsibilities of a software engineer?

- **Responsibilities:**
  I. Execute full software developmentlife cycle(SDLC)
  II. Develop flowcharts,layouts and documentation to identify requirements and solutions.
  III. Write well-Designed,testable code.
  IV. Produce specifications anddetermineoperational feasibility.
  V. Integrate software componentsinto a fully functional software system.
  VI. Develop software verification plans and quality assurance procedures.
  VII. Document and maintain software functionality.
  VIII. Troubleshoot,debug and upgrade existing systems.
  IX. Deploy programs and evaluate user feedback.
  X. Comply with project plans and industry standards.
  XI. Ensure software is updatedwith latest features.

Programming Languages Related To Software Engineering

- The top 10 programming languages of Software Engineering are Java,Python,C++,c# and JavaScripts. Each of these programming languages has its own strengths and weakness,so Software Engineers need to be familiar with all these languages.Here is a briefoverview of each programming language:

❖ Programming Languages Related To Software Engineering:

➢ C++:

C++ is a powerful, object-oriented language often used in systems programming, gaming, and graphics applications. It has been around for a long time is still one of the popular programming languages for Software Engineering. C++ is strongly typed language that can help catch bugs early in the development process. is a fast language that can produce efficient code and has a large community of developers who can help you with problems you may encounter. C++ is also cross-platform, indicating that you can compile your code for multiple platforms.

➢ C# :

C# is a Microsoft programming language used to develop Windows and Microsoft Azure applications. It has a robust oC#:bject-oriented structure and integrates well with the .NET platform, and it offers excellent performance, developer productivity, and robustness

PHP:

PHP IS **A SERVER SIDE SCRIPTING LANGUAGE THAT IS EMBEDDED IN HTML**. IT IS USED TO MANAGE DYNAMIC CONTENT, DATABASES, SESSION TRACKING, EVEN BUILD ENTIRE E-COMMERCE SITES. IT IS INTEGRATED WITH A NUMBER OF POPULAR DATABASES, INCLUDING MYSQL, POSTGRESQL, ORACLE, SYBASE, INFORMIX, AND MICROSOFT SQL SERVER.

C:

C is a general-purpose programming language created by Dennis Ritchie at the Bell Laboratories in 1972. It is a very popular language, despite being old. C is strongly associated with UNIX, as it was developed to write the UNIX operating system.:

Kotlin:

Kotlin is **a static type, object-oriented programing (OOP) language that is interoperable with the Java virtual machine, Java libraries and Android**. Kotlin saves time for developers as the less verbose language provides briefer and less redundant code. Kotlin can be compiled into JavaScript or an LLVM encoder.

JAVA:

JAVA IS A UNIVERSAL LANGUAGE THAT IS WIDELY USED IN ENTERPRISE APPLICATIONS. IT HAS A ROBUSTDEVELOPMENT. JAVA IS A STATICALLY TYPED LANGUAGE THAT MAKES IT EASIER TO CATCH ERRORS, OBJECT-ORIENTED STRUCTURE AND IS A POPULAR CHOICE FOR ANDROID LEADING TO MORE RELIABLE CODE.

JAVA ALSO HAS A LARGE AND ACTIVE COMMUNITY, WHICH MEANS THERE IS A LOT OF SUPPORT AVAILABLE FOR LEARNING AND USING THE LANGUAGE. FINALLY, JAVA IS A VERSATILE PROGRAMMING LANGUAGE THAT CAN BE USED FOR A VARIETY OF PURPOSES, FROM DEVELOPING DESKTOP APPLICATIONS TO CREATING WEB-BASED SERVICES.

JavaScript:

JavaScript is a high-level, interpreted language that complies with the ECMAScript specification. It is an asynchronous, single-threaded, interpreted language with a dynamic type system and first-class functions.

JavaScript is amongst the most popular and robust programming languages globally. It is a versatile language used for everything, from creating simple websites to developing sophisticated applications, and it's also a popular language for mobile development.

➢ Python:

Python is a high-level, interpreted language often used in Data Science, Artificial Intelligence, and Machine Learning applications. It is also famous for scripting and web development as it has simple, easy-to-learn syntax, emphasizing readability.
Python is essential for Software Engineering because it is a universal programming language that can be used for a diverse range of tasks. It is pretty straightforward to learn for beginners and has features that make it powerful for experienced developers. Python also has a broad range of libraries and modules that facilitate developers to do almost anything they need to do with their code.

➢ Ruby:

Ruby is a pure object-oriented programming language. It was created in 1993 by Yukihiro Matsumoto of Japan.
You can find the name Yukihiro Matsumoto on the Ruby mailing list at www.ruby-lang.org. Matsumoto is also known as Matz in the Ruby community.
Ruby is "A Programmer's Best Friend".
Ruby has features that are similar to those of Smalltalk, Perl, and Python. Perl, Python, and Smalltalk are scripting languages. Smalltalk is a true object-oriented language. Ruby, like Smalltalk, is a perfect object-oriented language. Using Ruby syntax is much easier than using Smalltalk syntax.

SQL:

Structured query language (sql) is a standardized programming language that is used to manage relational databases and perform various operations on the data in them. initially created in the 1970s, sql is regularly used not only by database administrators, but also by developers writing data integration scripts and data analysts looking to set up and run analytical QUERIES

SQL IS USED FOR THE FOLLOWING:

1. Modifying database table and index structures;
2. Adding, updating and deleting rows of data; and
3. Retrieving subsets of information from within relational database 4.management systems (rdbmses) -- this information can be used for. 5.transaction processing, analytics applications and other applications 6.that require communicating with a relational database.

Thank you