What is software engineering? Software engineering is the process of developing, testing and deploying computer applications to solve real-world problems by adhering to a set of engineering principles and best practices. The field of software engineering applies a disciplined and organized approach to software development with the stated goal of improving quality, time and budget efficiency, along with the assurance of structured testing and engineercertification. Though the original use of the term is uncertain, the first software engineering conference was held and sponsored by NATO in 1968. The conference addressed the inconsistency and unreliability in software development as well as the need for better quality assurance (QA) and reliability. The conference gathered international experts who agreed the systematic approach of physical world engineering should be applied tosoftware development, as it already was developed with those goals in mind. Types of software engineering Even though a software engineer usually manages many coding projects, software engineering entails more than just writing code for thesoftware. In reality, software engineering encompasses every phase of the software development lifecycle (SDLC), from planning the budget to analysis, design, development,software testing, integration, quality and retirement.

Software engineering encompasses every phase of the software development lifecycle (SDLC). Most software engineering tasks can be broken into the following three categories: •Operational software engineering.It includes all decisions and tasks pertaining to how the software will perform within a computer system. This may include anything related to the software budget, the way teams and users will interact with the software and any potential risks such as those associated with defective and outdated software.

•Transitional software engineering.This type of software engineering entails duties related to the software's adaptability and scalability when it's moved outside of its initial setting. •Software engineering maintenance.It entails activities connected to enhancing anddebuggingcurrent software to account for environmental changes, new technologies, bugs and risk factors that might have been disregarded during a previous development cycle. Over time, retirement takes over as maintenance of certain software is gradually reduced