**1.What is software?**

**SOFTWARE ENGINEERING**

Software is a set of instructions, data or programs used to operate computers and execute specific tasks.

**2.What is software engineering?**

Software Engineering is the process of designing, developing, testing, and maintaining software.

* Software Engineering is mainly used for large projects based on software systems rather than single programs or applications.
* It is a rapidly evolving field, and new tools and technologies are constantly being developed to improve the software development process.
* The main goal of Software Engineering is to develop software applications for improving quality, budget, and time efficiency.

**How Much Does Software Development Cost?**

Modern software makes it easier to promote your business, reach a larger audience, and gain a competitive edge.

v Software development costs depend on the app’s type, complexity, features, technologies used, and how you hire your developers.

v Software engineering is concerned with cost-effective software development.

v To reduce software development costs, the best options are to hire an outsourcing firm, choose cross-platform software development, and create an MVP to check your business hypotheses first.

**What is the difference between software engineering and computer science?**

**Software Engineering:**

* **Focus:** Practical aspects of software development.
* **Activities:** Designing, developing, testing, and maintaining software.
* **Goal:** To build reliable, efficient, and user-friendly software using structured processes and methodologies.

**Computer Science:**

* **Focus:** Theoretical foundations and principles of computing.
* **Topics:** Algorithms, data structures, computational theory, programming languages, and system architecture.
* **Goal:** To understand and advance the fundamental principles of computation and problem-solving techniques.

**What is the difference between software engineering and system engineering?**

**Software Engineering:**

* **Focus:** Designing, developing, and maintaining software applications.
* **Scope:** Deals specifically with software development processes, tools, and methodologies.
* **Goal:** To create efficient, reliable, and user-friendly software solutions.

**Systems Engineering:**

* **Focus:** Designing and managing complex systems that integrate hardware, software, and other components.
* **Scope:** Covers the entire system lifecycle, including requirements analysis, system design, integration, testing, and maintenance.
* **Goal:** To ensure that all parts of a complex system work together effectively to meet overall goals and requirements.

**Software Processes:**

1. **Planning:** Define the project scope, goals, and timeline.
2. **Analysis:** Gather and analyze requirements from stakeholders.
3. **Design:** Create the architecture and design of the software.
4. **Implementation:** Write and code the software.
5. **Testing:** Check for bugs and ensure the software meets requirements.
6. **Deployment:** Release the software to users.
7. **Maintenance:** Update and fix issues as needed after release.

**What are the attributes of good software?**

**Ans.** Good software typically has several key attributes:

* 1. Functionality: It performs the tasks and meets the needs it was designed for.
  2. Usability: It is easy and pleasant to use.
  3. Reliability: It works correctly and consistently without errors.
  4. Performance: It runs efficiently and quickly, even under load.
  5. Maintainability: It is easy to update and fix when needed.
  6. Scalability: It can handle growth, such as more users or data, without problems.
  7. Security: It protects against unauthorized access and data breaches.
  8. Portability: It can be used on different devices or platforms without major changes.