**1. Roles in a software project:**

**- Product Owner**: Product owners act as the bridge between software engineers and stakeholders, defining the project’s vision and priorities.They work with the development team to deliver products that meet the needs of users and the business.

**- Project Manager**: Project managers are the glue that holds the software development team together.They typically work with product owners, business analysts, developers, and other team members.Overseeing the entire development process, project managers ensure that software projects are completed on time and within budget.

**- Business Analyst**: Business analysts bridge the gap between business needs and technical solutions, ensuring that projects align with organizational goals.They understand what the business needs, and then translate those needs into a language that the developers can understand.

**- Software Architect**: Software architects design the overall structure of a software system, ensuring it meets technical and functional requirements.They also work with the development team to make sure that the system is scalable, maintainable, and secure.

**- Software Developer**: Software developers are the builders of the software system.They write, test, and maintain code to create software solutions based on the project’s specifications.Software developers also collaborate with the software architect to ensure the project runs smoothly.

**- UI/UX Software Designer**: User Interface/User Experience (UI/UX) designers play a crucial role in crafting software that is both user-friendly and visually appealing.They are responsible for designing the system’s visual interface, ensuring a seamless and engaging interaction for users.

**- Tester/QC**: A good software development team is not complete without testers, whose main responsibility is to check the software to make sure it works perfectly and bug-free.

**- Quality Assurance /QA**: Quality Assurance (QA) specialists oversee the entire testing process, ensuring that software meets quality standards. They work with the development team to ensure that the software system is thoroughly tested and free of defects.

**- Scrum Master**: The Scrum Master is responsible for ensuring that the team is following the Scrum process and principles, which are designed to help teams deliver value quickly and efficiently. Furthermore, they identify and remove any roadblocks that prevent the team from making progress.

**- Team lead** :A team lead or tech lead is responsible for leading and managing the software development team. They resolve any conflicts and build a positive work environment to ensure that the project is completed on time and within budget.

**2. What does tester do on a project (task)?**

The tasks of a tester on a project:

1. **Requirement Analysis:**
   * Understand the project requirements and specifications.
   * Collaborate with stakeholders, including developers, business analysts, and product owners, to clarify requirements.
2. **Test Planning:**
   * Develop a test plan outlining the scope, objectives, resources, schedule, and activities for testing.
   * Define the testing strategy and approach, including types of testing (e.g., functional, regression, performance, usability).
3. **Test Case Design:**
   * Create detailed and comprehensive test cases based on the requirements and design specifications.
   * Ensure test cases cover all possible scenarios, including positive, negative, edge, and boundary cases.
4. **Test Environment Setup:**
   * Set up the test environment, including hardware, software, network configurations, and necessary tools.
   * Ensure the test environment closely mirrors the production environment.
5. **Test Execution:**
   * Execute test cases manually or using automated testing tools.
   * Record the results of each test case, including any defects or issues encountered.
6. **Defect Reporting and Management:**
   * Log defects in a defect tracking system, providing detailed information for developers to understand and reproduce the issue.
   * Prioritize and track defects, retesting fixed issues to ensure they are resolved.
7. **Regression Testing:**
   * Perform regression testing to ensure that new changes have not adversely affected existing functionality.
8. **User Acceptance Testing (UAT):**

* Support or coordinate UAT, where end-users validate the software against their requirements.
* Gather feedback from users and ensure any critical issues are addressed before release

1. **Documentation:**

* Document test plans, test cases, test scripts, and test results.
* Create and maintain testing reports, providing insights on the quality and readiness of the software.

**3. Why do you need to test (Goal of software testing)?**

**- Verification and Validation**: It is a verification activity carried out to assure that the product is developed in a way that requires the same time validating if it is fit for the intended use and expectations of the stakeholders.

**- Identification of Defects**: the key objective is to make sure that detection and identification of defects, bugs, and errors of software are done in an early and effective manner.

**- Defects Prevention**:Systematic software testing and result analysis let the development team identify the causes of defects and possible corrective actions, so as not to repeat its occurrence in the future, ensuring a better quality standard in practice of software development.

**- Ensuring Quality Attributes in the Product**: the testing processes ensure that the software product is attuned to quality standards that have been defined either by the development team or the standards defined within the industry for smooth user experience.

**- Risk Management**:This includes assessing security vulnerabilities, performance bottlenecks, and reliability problems in software in such a way that these areas of the software will not expose the product to significant risks on software release.

**- Reduced Development Costs**:In software development, most of the cost of rectifying software defects is in the identification of the software defects, and the earlier this is done, the cheaper it is. Software testing helps minimize those costs by identifying the problem and dealing with it at an early stage.

**-Verify Compliance with Requirements**: Software testing verifies that the software meets all specified requirements and complies with industry standards, legal regulations, and user expectations.

**4. What is execute testing?**

-Test Execution is a process of running test cases based on test scenarios created for software applications to ensure that it meets all the pre-defined functional and non-functional requirements or specifications.

-In this phase, the tests are categorized and executed according to a test plan. The entire test plan intends to break the whole application into individual components and involves detailed test cases for each. The individual and comprehensive testing of each component helps ensure that the application works seamlessly overall.

-Key aspects of execute testing include:

* Running Test Cases
* Observing Behavior
* Recording Results
* Defect Identification
* Regression Testing

**5.Which tool do you use to record your test cases?**

- Some popular tools used for recording test cases :

+ Google Sheets

+ IBM Engineering Test Management

+ PractiTest

+ Spira Test

+ Test Collab

+ TestLink

+ TestRail

+ Tuskr

+ Xray ( Test Management for Jira)

+ Zephyr Scale (SmartBear)