

QA- СТАЖАНТСКА ПРОГРАМА

- Изисквания към стажантите:
 - професионално направление от Факултет Електротехника, електроника и автоматика
 - Ползване на собствен лаптоп
- Програмата е разчетена в рамките на 15 лекторски часа. Останалото време се ползва за самоподготовка от стажантите.

I. Software Quality Assurance Introduction (6h)

1. What is software quality assurance? What is software testing?

- What is the testing, what is the quality, Dimensions of Quality, ...
 - Testing, debugging, investigation. Testing Principles. Cost of Errors.

2. Software defects (bugs).

- What is the bug?
 - How did the word "Bug" come about in computer programming. Expected vs Actual result (example).

3. Manual testing vs. automated testing;

- Manual testing - click and check the result Automated testig - QA automation
 - Manual - type of software testing in which tests are executed manually without using any automated tools, human performs the tests without scripts. Недостатък - изпълняват се 1 по 1, бавни, консумира време и пари
 - Automation - tests executed automatically via test automation frameworks, tester utilize tools and scripts, increases the speed of test execution and test coverage.

4. The seven testing principles; Software testing and test types; Unittest-> service test-> UI



- 7 принципа на софтуерното тестване:
 - Тестването показва наличие на дефекти
 - Изчерпателното тестване не е възможно
 - Ранно тестване
 - Групиране на дефекти
 - Парадокс с пестицидите
 - Тестването зависи от контекста
 - Липсата на грешки е заблуда

Software Testing and Test Types

- Testing checks whether software **conforms to the requirements** aims to **find defects**
- Types of software tests
 - **Functional and non-functional**



- Software testing - static and dynamic
- Types - Functional and non-functional (part of dynamic testing)
 - Functional - white box testing and black box testing
 - Non-functional - тест за поддръжка, стрес тест, сек'рити...

5. Test scenarios and test cases (1.5h)

6. Практическа задача - тест сет / тест (1.5h)

II. Bugs and Bug Tracking

- 1. Software Defects; Incident Report (1.5h);**
- 2. Defect Lifecycle; Incident Management Metrics (1h);**
- 3. Tips for Bug Reporting; Bug Tracking Systems (1h);**
- 4. Практическа задача - bug tracking (1.5h).**

III. Test Levels and Test Types

- 1. Introducing and comparing different test levels; Test levels: unit testing vs. integration testing vs. system testing (1.5h);**
- 2. Test types: static testing, dynamic testing (functional, non-functional), etc.; Applying different test types throughout the test levels (1.5h);**
- 3. Практическа задача – discussion (1h).**