



## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ACADEMIC YEAR 2023 - 2024 / EVEN SEMESTER

### REPORT

1. Name of the event : Guest Lecture on “Testing Concepts in Python”
2. Date & Session : 16.02.2024
3. Venue : CSE Dept, Smart Class room.
4. Name of the Organizer : Mr.S.Rajarajan, AP/ CSE
5. Resource Person :KARTHIKEYAN N.  
Assistant Professor,  
Department of CSE,  
Government College of Engineering,  
Sengipatti, Thanjavur.
6. Objective : To introduce them to the importance of testing in software development, familiarize them with different testing methodologies and tools in python, and provide hands-on experience with writing and running tests to ensure code quality and reliability.

Department of Computer Science and Engineering organized a guest lecture on “Testing Concepts in python” on February 16<sup>th</sup> of 2024 with the objective of familiarize in software development different industries. The resource person .N.Karthikeyan elaborated the basics in Software Testing and its applications in a well organized manner.

Key points Covered:

1. **Need for Software Engineering:** Emphasizes a systematic, disciplined, and quantifiable approach to software development, operation, and maintenance, akin to engineering principles applied to software.

2. **Software Development Life Cycle (SDLC) Process:** Involves phases like communication, planning, modeling, construction, and deployment, aiming to enhance design, product management, and project management.
3. **Requirements:** These are conditions or capabilities required by users to solve problems or achieve objectives, categorized into functional and non-functional requirements.
4. **Effort Distribution Principle (40-20-40 rule):** Used for cost and effort estimation across different phases or activities in software development, highlighting the distribution of effort.
5. **Software Requirement Specification (SRS):** A document outlining what the software will do and how it should perform, encompassing both functional and non-functional requirements.
6. **Need for Testing and Quality Assurance:** Highlighting its importance for meeting quality standards, bug detection, customer satisfaction, risk management, cost reduction, competitive advantages, and continuous improvement.
7. **Objectives of Testing:** Includes identifying logical errors through executing programs with the intent of finding errors, emphasizing the importance of good test cases and covering both low and high-level functionalities.
8. **Responsibility:** Shared between the Software Development team and the Software Quality Assurance Team.
9. **Key Testing Activities:** Encompassing test planning, design, case creation, procedures, execution, and reporting.
10. **White Box Testing:** Focuses on the structure of code and involves understanding module details, exercising various paths within modules, logical decisions, loops, and internal data structures.
11. **Types of White Box Testing:** Includes Basis-Path Testing and Control Structure Testing, which involves condition testing, data flow testing, and loop testing.

12. **Black Box Testing:** Centers on the principal function of the application without requiring technical knowledge of the code, focusing on incorrect or missing functions, interface errors, data structure errors, behavior/performance errors, and initialization/termination errors.

13. **Types of Black Box Testing:** Encompasses methods like graph-based testing, equivalence partitioning, boundary value analysis (BVA), and orthogonal array testing.

Around 55 students from our department attended the session and got exposed to the topic which is widely used now.

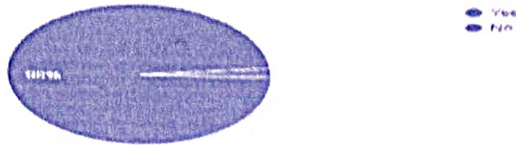


Glimpses of the Guest Lecture on "Testing Concepts in Python"

## Feedback from Students

Does the session met your expectations?  
50 responses

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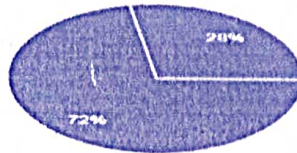
The information shared in the session is useful  
50 responses

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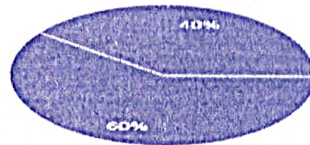
The Content and delivery of resource person was  
50 responses

● Excellent  
● Good  
● Fair



The Lecture session was well organized  
50 responses

● Strongly agree  
● Agree  
● Neutral



### Outcome:

Students gaining a solid understanding of various testing methodologies like unit testing, integration testing, and end-to-end testing, as well as practical experience in implementing those concepts using python's testing frameworks like unittest, pytest, etc. The students should have the ability to write effective tests to ensure the reliability and robustness of their python code.

  
SIGNATURE OF COORDINATOR

  
HOD/CSE 21/2/24

  
PRINCIPAL