



TAGORE ENGINEERING COLLEGE

Approved by AICTE, New Delhi | Affiliated to Anna University, Chennai
Rathinamangalam, Vandalur – Kelambakkam Road, Chennai, Tamil Nadu 600127, India

Department of Computer Science and Engineering

Faculty Name: SUGANTHI.J

Designation: ASSISTANT PROFESSOR/CSE

Role-Play Activity: PROBLEM EMPHASIS

Objective:

Students will learn about the basics of algorithmic problem solving, The goal of this role-play activity is to help participants understand how to identify, articulate, and address problems in Python programming. By simulating real-world scenarios, participants will practice problem-solving skills, debug code, and collaborate to find solutions.

Roles:

- Responsible for writing code and debugging.
- Provides feedback, identifies problems, and suggests improvements.
- Oversees the overall progress, ensures that the problem-solving process is effective, and communicates requirements.

Preparation:

- Example Python code snippets with bugs or issues.
- A problem statement document outlining the issues to be addressed.
- Access to Python IDE or environment for coding and debugging.

Introduction

Explain the goal of the activity. The students will work in teams to troubleshoot Python functions and use function calls to solve problems.

Assign each student a role from the list above. Each role has specific responsibilities.

- Present the scenario to the students. For example: Create a fictional project where a Python script or application is not working as intended. Provide a brief description of the project and the specific issue encountered.
- Your company's Project is experiencing in Python.

Introduction and Problem Briefing:

- The Team Lead introduces the project and explains the current issue with the Python code.
- The Developer receives the problematic code and the Tester receives test cases or error logs.

Code Analysis and Troubleshooting:

- The Developer begins analyzing the code to identify the source of the problem.
- The Tester executes test cases and reports findings to the Developer.
- The Team Lead oversees the process, provides guidance, and ensures effective communication.

Solution Development:

- The Developer works on fixing the identified issues based on feedback and test results.
- The Tester re-tests the fixed code to ensure that the issues have been resolved.
- The Team Lead reviews the changes and ensures that all requirements are met.

Debrief and Reflection:

- The Team Lead leads a discussion about the troubleshooting process, what was learned, and how the problem-solving approach can be improved.
- Participants reflect on their roles, the challenges they faced, and how they collaborated to solve the problem.



Discussion and Debrief

1. Group Discussion: Have each student or group present their findings, solutions, and the impact of the error control techniques they implemented.

2. Review Techniques

- Discuss the effectiveness of the error detection methods (e.g., Syntax Errors, Exceptions and Error Handling Logging, Unit Testing, Type checking).
- Evaluate the error correction strategies (e.g., Debugging, Exception Handling ,Type Checking and Annotations, Code Reviews).

3. Feedback: Allow the Observer/Reporter to provide feedback on the team's performance and discuss any challenges faced during the role-play.
4. Q&A: Open the floor for any questions or additional insights on error control techniques.