FACULTY OF INFORMATION TECHNOLOGY
UNIVERSITY OF SCIENCES - HOCHIMINH CITY
227 Nguyen Van Cu Street, Ward 4, District 5, HCMC
Phone: (08) 38.354.266 - Fax: (08) 38.350.096

CS423 – CSC13003 – Software Testing
HOMEWORK
DATA GENERATION & SCENARIO TESTING

General Information

Exercise ID:	DataGeneration&ScenarioTesting
Duration:	9 hours
Deadline:	(please see the submission link)
Form:	Individual Assignment
Submission:	Moodle
Lecturer:	Dr. Lam Quang Vu
	Dr. Tran Duy Hoang
	MSc. Tran Thi Bich Hanh
TA:	MSc. Truong Phuoc Loc
	MSc. Ho Tuan Thanh
Contact:	lqvu@fit.hcmus.edu.vn
	tdhoang@fit.hcmus.edu.vn
	ttbhanh@fit.hcmus.edu.vn
	tploc@fit.hcmus.edu.vn
	htthanh@fit.hcmus.edu.vn

Expected Learning Outcome

- Generate a large volume of **realistic and meaningful test data** to support testing activities.
- Apply scenario testing techniques to design test cases for real-world scenarios.

Software Under Test

- **Application**: The Toolshop
- **Repository**: https://github.com/testsmith-io/practice-software-testing/
- **Target Version**: `/sprint5-with-bugs` folder

FACULTY OF INFORMATION TECHNOLOGY
UNIVERSITY OF SCIENCES - HOCHIMINH CITY
227 Nguyen Van Cu Street, Ward 4, District 5, HCMC
Phone: (08) 38.354.266 - Fax: (08) 38.350.096

👉 Students must download this version and **deploy it locally** on their machine.

Scope and Feature Selection

- Students must work **in groups**.
- Each **group member must select and be responsible for generating data at least two (2) tables and testing two (2) distinct scenarios** of the system under test.
- **No two members within the same group are allowed to work on the same table/scenario**.
- In the final reports, **each student must submit their own individual report**.
- **At the beginning of each individual report, students must include a clear task allocation section for the entire group**, which shows:
  - Names of all group members
  - Features assigned to each member
- Following that, the individual report should detail the student's own assigned features, including test case design, execution results, and any bugs found.

⚠️ The higher the priority and business impact of the selected features, the more credit will be given in evaluation.

Requirements

Your submission must include the following sections:

a. Data Generation

Data generation

- Choose one **free or trial** tool or GenAI tool to generate the following datasets: at least **500 rows for one table**
- All data must be **meaningful** (e.g., no random gibberish like `nfdsnbf`).

💡 You may also develop your **custom-built data generation tool**. In this case, include the **source code** in your submission and explain your implementation.

Report Requirements

Write a detailed report including:

- List of data fields and their randomized ranges or rules
- Screenshots of the tool in use
- Explanation of your process and steps

- Explanation of source code (if using a custom tool)
- Sample data

b. Scenario testing

Scenario testing

- Describe the selected scenario.
- Apply scenario testing to design test cases.

Test case document

- Write **test cases in professional QA format** for each scenario
- Each test case must include:
  - Test Case ID
  - Title
  - Preconditions (if any)
  - Inputs (Test Data)
  - Test Steps
  - Expected Result
  - Actual Result (to be filled after execution)
  - Result (Pass/Fail)

Use of AI Tools

- If you use an AI tool (e.g., ChatGPT, Gemini, Copilot), clearly describe:
  - The **tool name**
  - The **prompts used**
  - How you validated or refined the AI-generated results
  - Which test cases came from AI and which were created manually

Merged Test Case List

- Combine AI-generated and student-created test cases into **one consolidated list**.
- Remove duplicates and justify your final selections.

Test Execution & Bug Reporting

- Execute all test cases on your local deployment of *The Toolshop*.
- Fill in the **Actual Result** and mark **Pass/Fail**.
- If a test fails, document it in a **Bug Report**, including:
  - Bug ID
  - Summary
  - Steps to Reproduce
  - Actual Result vs Expected Result

FACULTY OF INFORMATION TECHNOLOGY
UNIVERSITY OF SCIENCES - HOCHIMINH CITY
227 Nguyen Van Cu Street, Ward 4, District 5, HCMC
Phone: (08) 38.354.266 - Fax: (08) 38.350.096

- Screenshot (if possible)
- Priority and Severity
- Affected Feature / Version

Submission Instructions

- **File name Format**:

  `StudentID_DataGeneration_SelfAssessedGrades.zip`
  (Example: `20127001_HW03_09.zip`)

- **The ZIP file must include:**
  - **StudentID_DataGeneration.pdf**: Your individual report.
  - **StudentID_DataGeneration_Data.xlsx**: Data of 2 tables.
  - **StudentID_ScenarioTesting.pdf**: Your individual report.
  - **StudentID_TestCases.xlsx**: The final test case document of scenario testing.
  - **StudentID_BugReport.xlsx**: Your detailed bug report.
- **Submission Platform**: Moodle
- **Deadline**: Refer to the submission link on Moodle

Assessment Criteria

Criteria	Description	Max Points
2 Tables Selection	2 important tables selected	1.0
Sample data	All data must be **meaningful**	2.0
Data generation report	Report is clear, traceable, professional, with self-assessment	1.0
2 Scenario Selection	2 important scenario selected	1.0

FACULTY OF INFORMATION TECHNOLOGY
UNIVERSITY OF SCIENCES - HOCHIMINH CITY
227 Nguyen Van Cu Street, Ward 4, District 5, HCMC
Phone: (08) 38.354.266 - Fax: (08) 38.350.096

Scenario testing	Correct and complete scenario identification	2.0
Use of AI Tools	Prompt transparency, critical validation, added value	1.0
Test Execution	All designed test cases executed, results logged	0.5
Bug Reporting	Clear and complete bug report(s), if applicable	0.5
Scenario testing report	Report is clear, traceable, professional, with self-assessment	1.0
Total		**10.0 points**

References

None

Other regulations

Late submission is not permitted.

Self-Assessment Template

Students must include their self-assessment based on the rubric in assessment criteria session at the end of their individual report.