

## Part 1: Evidence of tool usage

### 1. Github repository

Link: [https://github.com/vnhat307/ProAndTest\\_Group11.git](https://github.com/vnhat307/ProAndTest_Group11.git)

The screenshot shows the GitHub repository page for 'ProAndTest\_Group11'. The repository is public and has 4 commits. The README file contains the following content:

```
Quiz Examination System
Stage 3 - Implementation
A simple Python-based quiz management system.

How to run
```

### Commit History

The screenshot shows the GitHub commit history for the 'main' branch. There are four commits:

- Resolved merge conflicts** (Vnhat, 11 minutes ago)
- Add Dockerfile and requirements.txt** (Vnhat, 16 minutes ago)
- Update README.md** (ithieusdev, 12 hours ago) - Verified
- Initial commit from local machine** (Vnhat, 18 hours ago)

## 2. VsCode

The screenshot shows the VS Code interface with the main.py file open in the editor. The code implements a student entry system. It checks if a student has registered, prints available exams, and allows selecting an exam by ID. If no exam is selected, it prints a message and pauses.

```
src > main.py > next_user_id
203 def student_entry() -> Student | None:
242     elif c == "0":
243         return None
244     else:
245         print("Invalid choice.")
246
247
248 # ===== STUDENT MENU =====
249 def student_menu(s: Student):
250     if not s.StudentID:
251         print("You must register before taking exams.")
252         pause()
253         return
254
255     pubs = [e for e in EXAMS if e.Status == "published" and len(e.Questions) > 0]
256     if not pubs:
257         print("No published exams available.")
258         pause()
259         return
260
261     print("\n[AVAILABLE EXAMS]")
262     for e in pubs:
263         print(f"({e.ExamID}) {e.Title} ({len(e.Questions)} questions)")
264
265     try:
266         eid = int(input("Enter ExamID to take: "))
267     except ValueError:
268         print("Invalid ExamID.")
269         pause()
270         return
271
272     exam = next((x for x in pubs if x.ExamID == eid), None)
273     if not exam:
274         print("Exam not found.")
275         pause()
```

The screenshot shows the VS Code interface with the terminal tab active, displaying the execution of the main.py script. It logs the user type selection (Teacher), login details (Email: teacher@gmail.com, Password: 456), and a failed login attempt due to wrong credentials. It also shows the teacher menu options.

```
ADMIN@LAPTOP-IM5QHQLV MINGW64 /d/Report_CNPM (main)
$ C:/Users/ADMIN/AppData/Local/Microsoft/WindowsApps/python3.13.exe d:/Report_CNPM/src/main.py
Question 2 added to bank 1.
Question 3 added to bank 1.

==== SELECT USER TYPE ====
1) Admin
2) Teacher
3) Student
0) Exit
Choose: 2

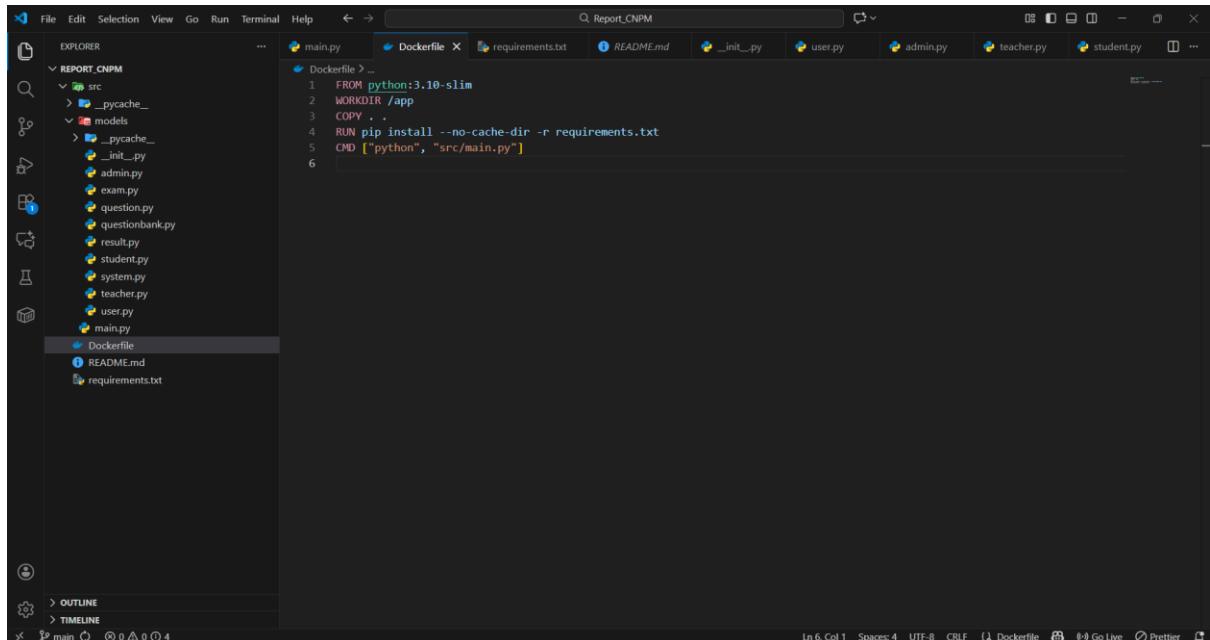
==== LOGIN (TEACHER) ===
Email: teacher@gmail.com
Password: 456
Wrong email/password or account locked.

==== SELECT USER TYPE ====
1) Admin
2) Teacher
3) Student
0) Exit
Choose: 2

==== LOGIN (TEACHER) ===
Email: teacher@gmail.com
Password: 456

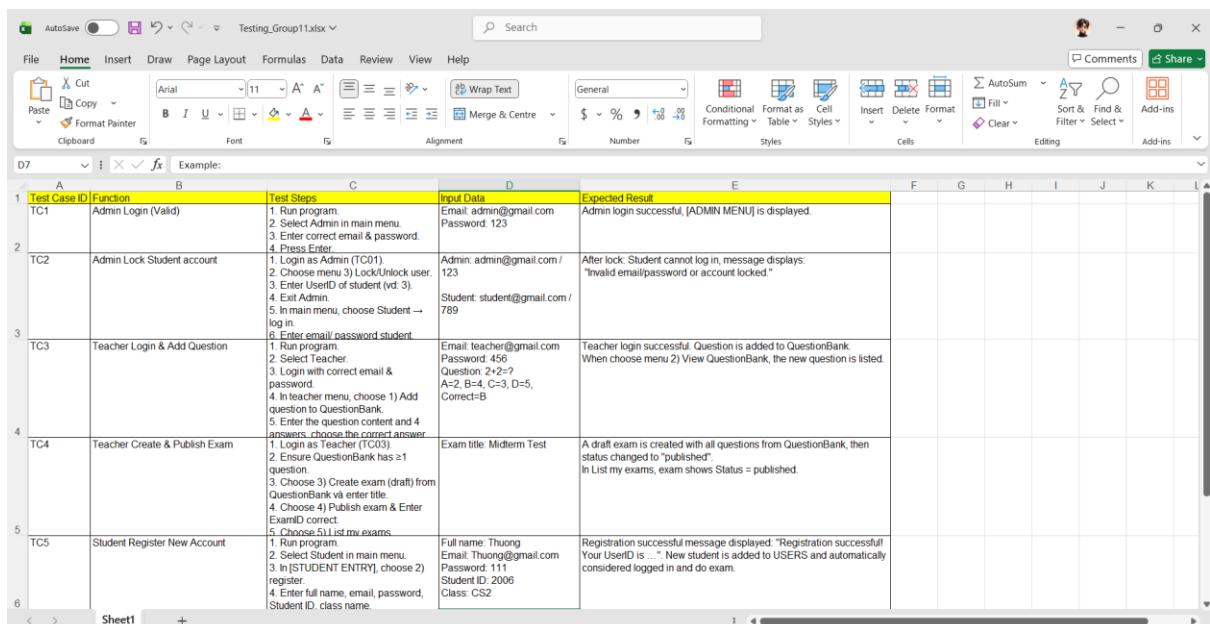
[TEACHER MENU]
1) Add question to QuestionBank
2) View QuestionBank
3) Create exam (draft) from QuestionBank
4) Publish exam
5) List my exams
0) Back
Choose: 1
```

### 3. Dockerfile



```
FROM python:3.10-slim
WORKDIR /app
COPY . .
RUN pip install --no-cache-dir -r requirements.txt
CMD ["python", "src/main.py"]
```

### 4. Testing



Test Case ID	Function	Test Steps	Input Data	Expected Result
TC1	Admin Login (Valid)	1. Run program. 2. Select Admin in main menu. 3. Enter correct email & password. 4. Press Enter.	Email: admin@gmail.com Password: 123	Admin login successful. [ADMIN MENU] is displayed.
TC2	Admin Lock Student account	1. Login as Admin (TC01). 2. Admin menu 3) Lock/Unlock user. 3. Enter UserID of student (vd. 3). 4. Exit Admin. 5. In main menu, choose Student → log in. 6. Enter email/password student.	Admin: admin@gmail.com / 123  Student: student@gmail.com / 789	After lock: Student cannot log in, message displays: "Invalid email/password or account locked."
TC3	Teacher Login & Add Question	1. Run program. 2. Select Teacher. 3. Login with correct email & password. 4. In teacher menu, choose 1) Add question to QuestionBank. 5. Enter the question content and 4 answers, choose the correct answer.	Email: teacher@gmail.com Password: 456 Question: 2+2? A=2, B=4, C=3, D=5, Correct-B	Teacher login successful. Question is added to QuestionBank. When choose menu 2) View QuestionBank, the new question is listed.
TC4	Teacher Create & Publish Exam	1. Login as Teacher (TC03). 2. Ensure QuestionBank has 2+ questions. 3. Choose 3) Create exam (draft) from QuestionBank via enter title. 4. Choose 4) Publish exam & Enter ExamID correct. 5. Choose 5) list my exams.	Exam title: Midterm Test	A draft exam is created with all questions from QuestionBank, then status changed to "published". In List my exams, exam shows Status = published.
TC5	Student Register New Account	1. Run program. 2. Select Student in main menu. 3. In [STUDENT ENTRY], choose 2) Register New Account. 4. Enter full name, email, password, Student ID, class name.	Full name: Thuong Email: Thuong@gmail.com Password: 111 Student ID: 2006 Class: CS2	Registration successful message displayed: "Registration successful! Your UserID is ...". New student is added to USERS and automatically considered logged in and do exam.

## Part 2: Assignment

Name	ID	Task	Rate
Nguyễn Đình Việt Nhật (Leader)	049206008327	- Implement main.py file for Stage 3 (Handle user flow for admin, teacher, student) - Complete all tasks in Stage 4 (Testing document, Dockerfile)	100%
Lê Thị Thương	045306007998	- Implement user, teacher, and admin functionalities - Create and manage the admin, teacher, and student classes	100%
Võ Thanh Hiếu	051206003008	- Implement the system functionalities - Handle the system logic (auto grading, statistics, etc.)	50%