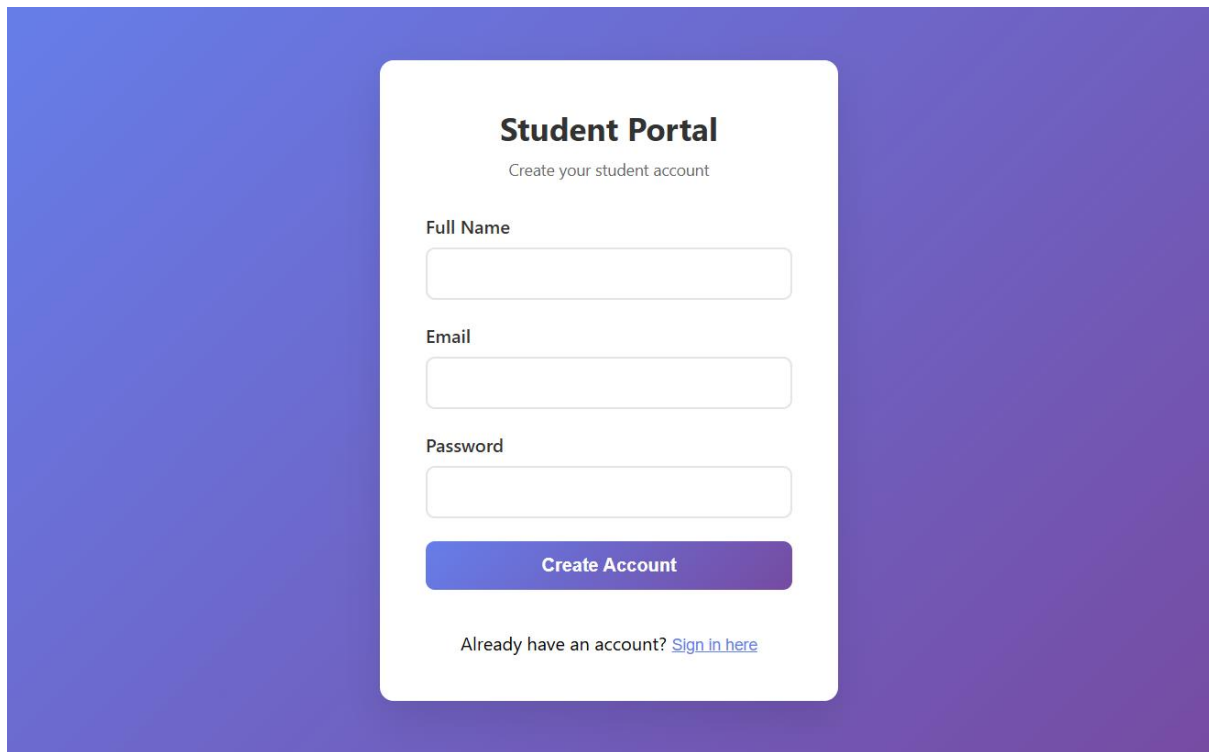


## Assignment – 3

A screenshot of a web form titled "Student Portal" with the subtitle "Create your student account". The form is centered on a purple gradient background. It contains three input fields labeled "Full Name", "Email", and "Password". Below these fields is a blue button labeled "Create Account". At the bottom, there is a link that says "Already have an account? [Sign in here](#)".

**Student Portal**  
Create your student account

Full Name

Email

Password

**Create Account**

Already have an account? [Sign in here](#)

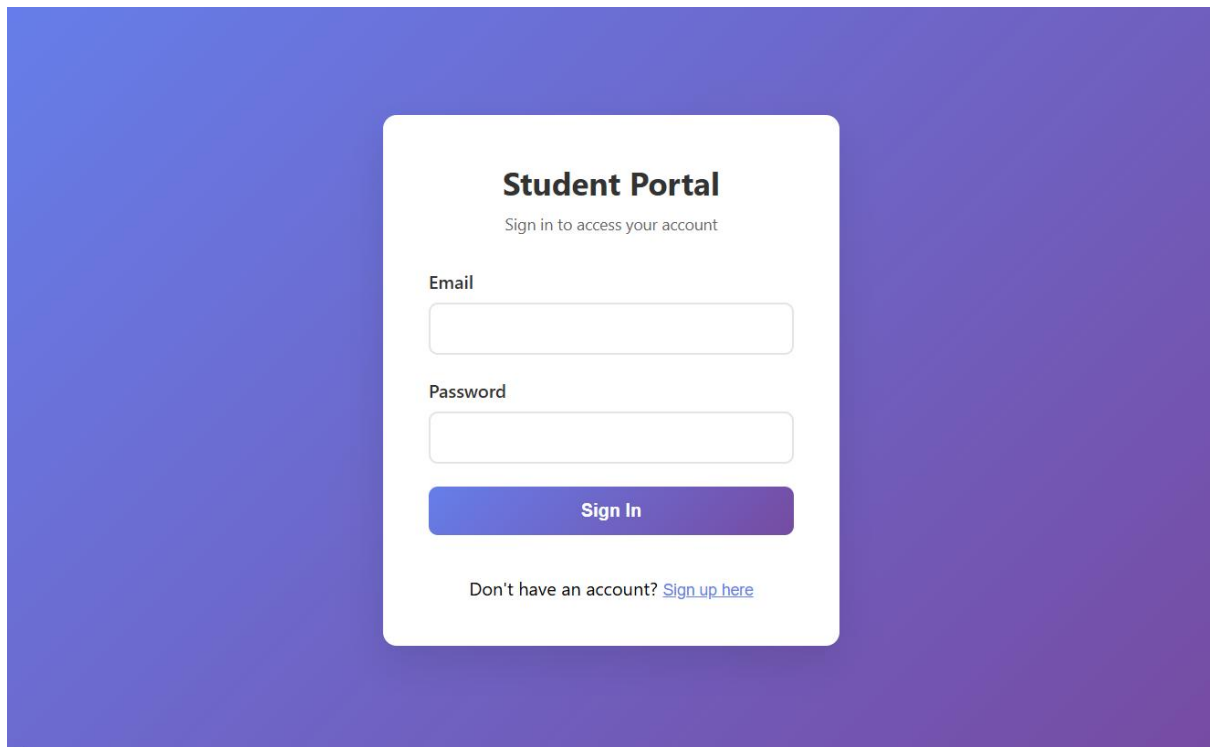
I had created this website by using Lovable by giving a simple prompt to it it has automatically generated the sign up, sign in and details of students and its functionalityss also work

When we sign up in the website it will store our details and after this process if we try to sign in if the details are correct it will redirect to details page of that student by giving it a specific id and name, mail and when he had login

This all details will be stored in SuperBase it will act as backend and it will use MySQL to create a table and store the data

ScreenShorts of all the content said was given in this assignment.

## Assignment – 3

A login form for a 'Student Portal' centered on a purple gradient background. The form is a white rounded rectangle containing a title, a subtitle, two input fields for email and password, a 'Sign In' button, and a link to sign up.

**Student Portal**

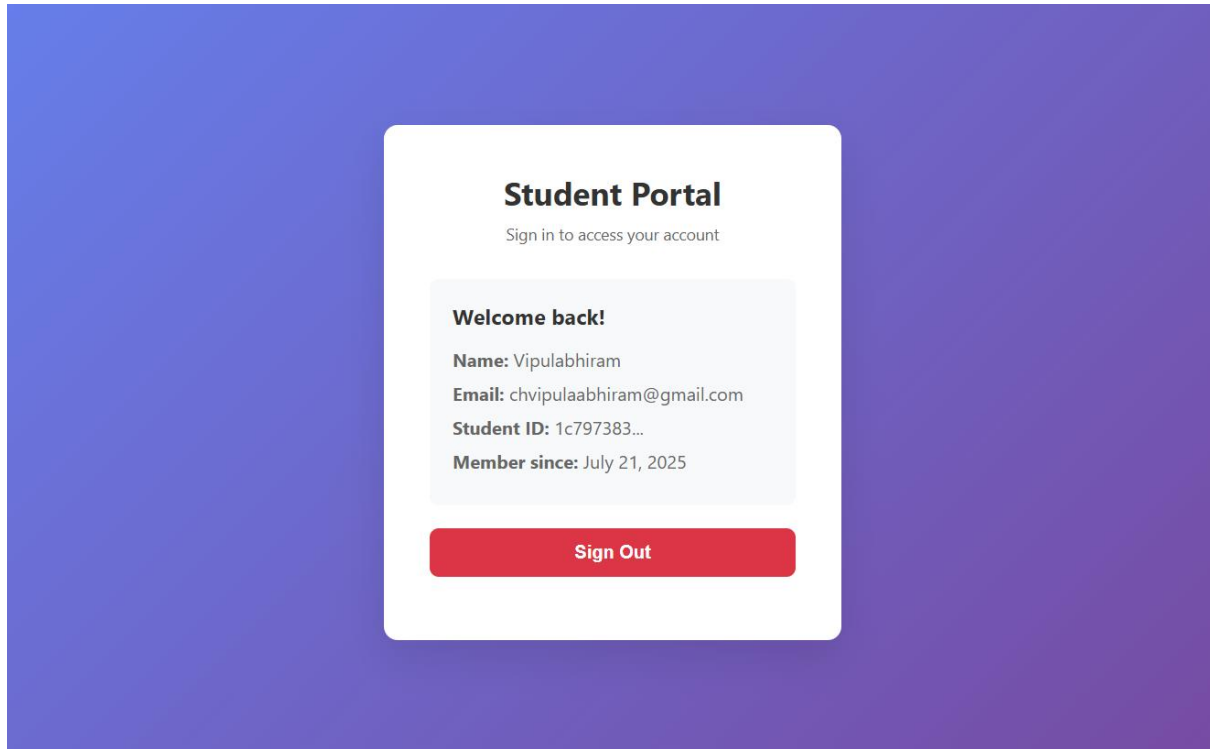
Sign in to access your account

Email

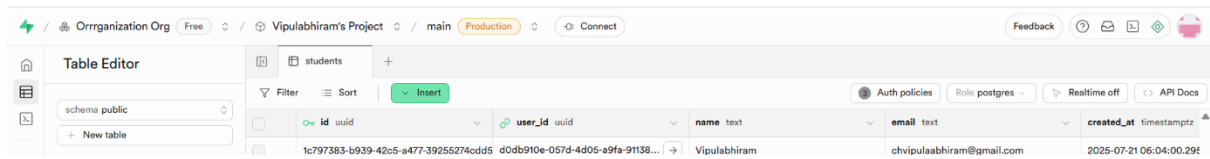
Password

**Sign In**

Don't have an account? [Sign up here](#)



## Assignment – 3

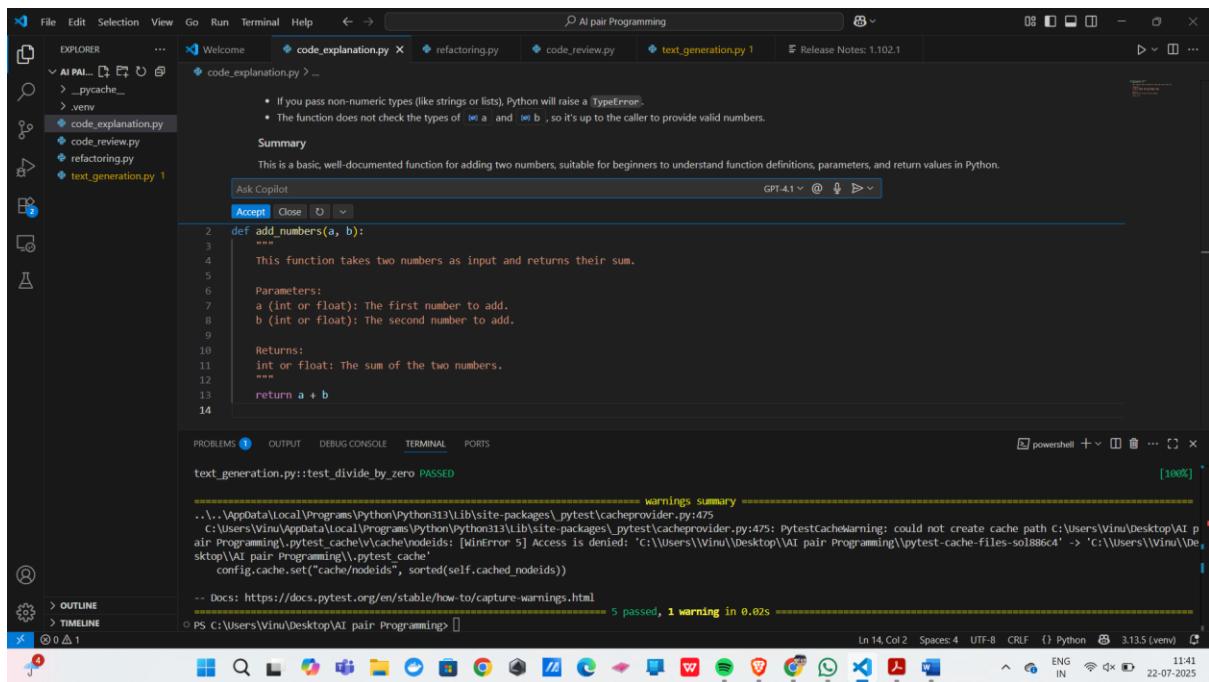


The screenshot shows a database management tool interface. The top navigation bar includes 'Organization Org', 'Vipulabhiram's Project', 'main', and 'Production'. The left sidebar has 'Table Editor' and 'schema public'. The main area displays a table named 'students' with columns: id, user\_id, name, email, and created\_at. The table contains one row of data.

id	user_id	name	email	created_at
1c797383-b939-42c5-a477-39255274cdd5	d0db910e-057d-4d05-a9fa-91138...	Vipulabhiram	chvipulaabhiram@gmail.com	2025-07-21 06:04:00.29f

## Assignment – 3

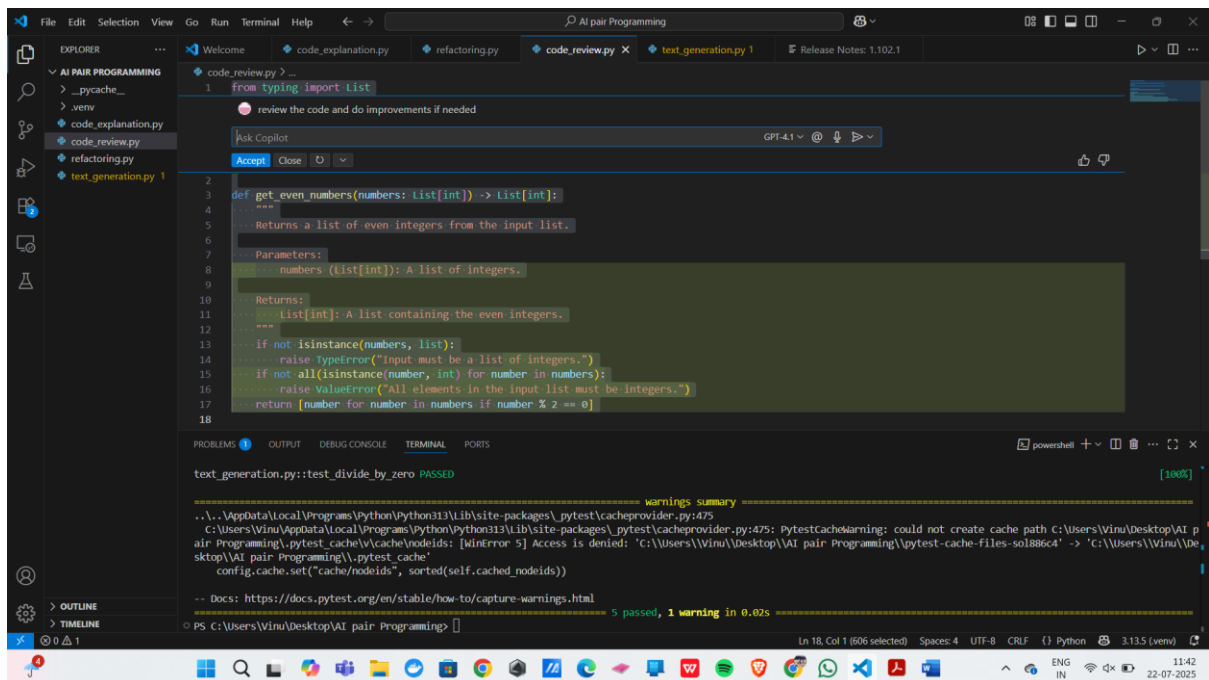
### Code Explanation



By using copalite I had reviewed the code and understood it. It explains very detailly line by line

## Assignment – 3

### Code Review and Improving the code if needed



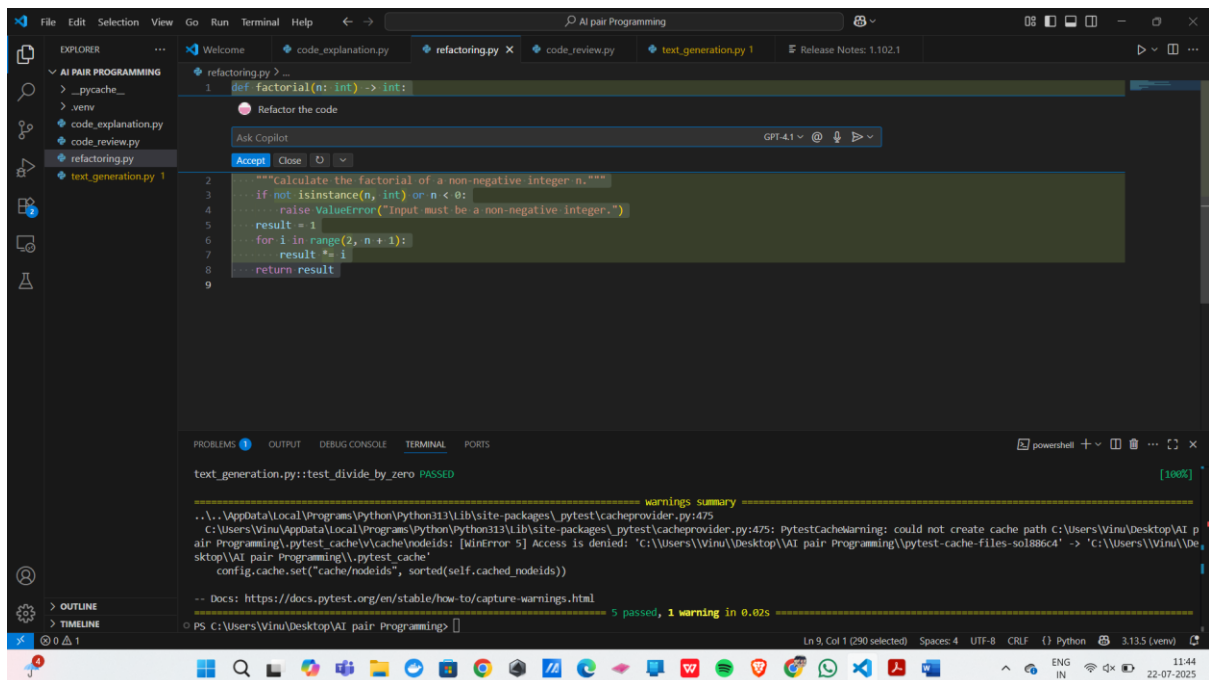
The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows a project named "AI PAIR PROGRAMMING" with files like `code_explanation.py`, `code_review.py`, `refactoring.py`, and `text_generation.py`.
- Code Editor:** Displays the `code_review.py` file. The current line is `from typing import List`. A Copilot suggestion box is open, showing a function definition for `get_even_numbers` with detailed docstrings and error handling.
- Terminal:** Shows the output of a test run: `text_generation.py::test_divide_by_zero PASSED`. Below this, a "warnings summary" is displayed, indicating a warning from PytestCacheWarning.
- Status Bar:** Shows the current file is `code_review.py` at line 18, column 1.

Here copalite had reviewed my code and suggested me some improvements in my code so that it will be more efficient

## Assignment – 3

### Code Refactoring



```
1 def factorial(n: int) -> int:
2     """Calculate the factorial of a non-negative integer n."""
3     if not isinstance(n, int) or n < 0:
4         raise ValueError("Input must be a non-negative integer.")
5     result = 1
6     for i in range(2, n + 1):
7         result *= i
8     return result
9
```

text\_generation.py::test\_divide\_by\_zero PASSED [100%]

warnings summary

..\\AppData\\Local\\Programs\\Python\\Python313\\Lib\\site-packages\\\_pytest\\cacheprovider.py:475: PytestCacheWarning: could not create cache path C:\\Users\\Vinu\\Desktop\\AI pair Programming\\\_pytest\_cache\\v\\cache\\nodeids: [winError 5] Access is denied: 'C:\\Users\\Vinu\\Desktop\\AI pair Programming\\\_pytest\_cache-files-s01886c4' -> 'C:\\Users\\Vinu\\Desktop\\AI pair Programming\\\_pytest\_cache' config.cache.set('cache/nodeids', sorted(self.cached\_nodeids))

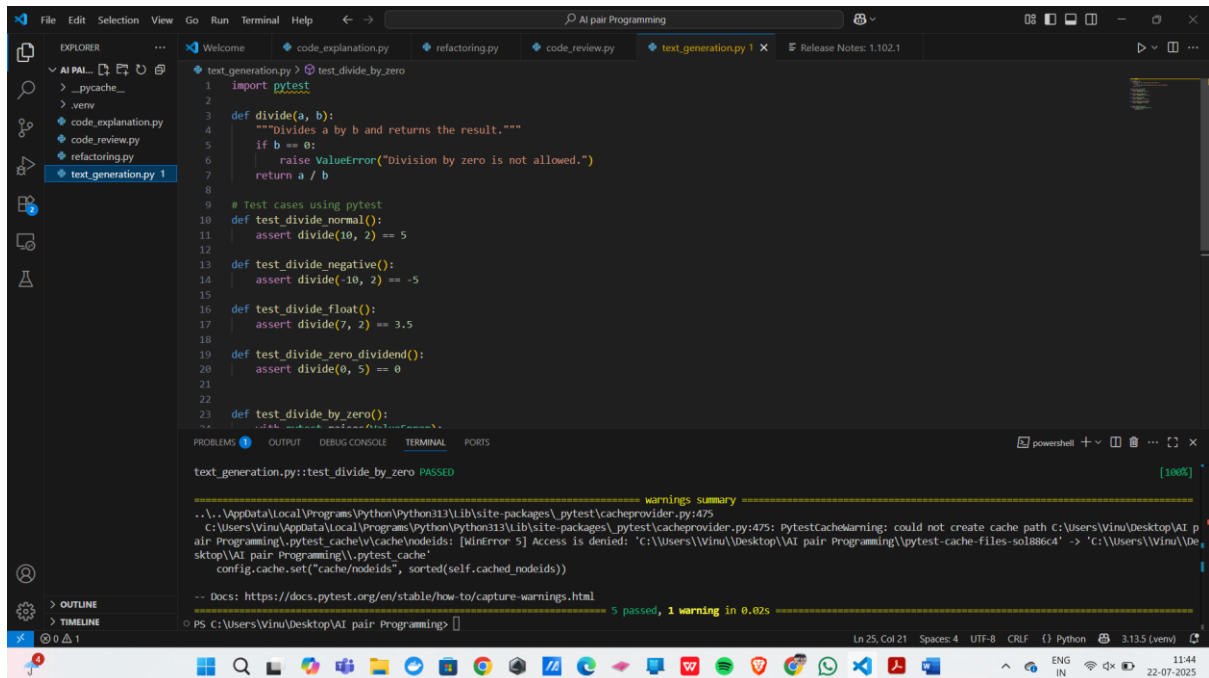
-- Docs: <https://docs.pytest.org/en/stable/how-to/capture-warnings.html>

5 passed, 1 warning in 0.02s

Here copalite has refactored my code by using a new logic of its it may be much efficient than my code or else we can say it to refactor it by using a specific operations like refactor this code by using for loop

## Assignment – 3

### Test Case Generation



```
1 import pytest
2
3 def divide(a, b):
4     """Divides a by b and returns the result."""
5     if b == 0:
6         raise ValueError("Division by zero is not allowed.")
7     return a / b
8
9 # Test cases using pytest
10 def test_divide_normal():
11     assert divide(10, 2) == 5
12
13 def test_divide_negative():
14     assert divide(-10, 2) == -5
15
16 def test_divide_float():
17     assert divide(7, 2) == 3.5
18
19 def test_divide_zero_dividend():
20     assert divide(0, 5) == 0
21
22
23 def test_divide_by_zero():
24     with pytest.raises(ValueError):
25         divide(10, 0)
```

text\_generation.py::test\_divide\_by\_zero PASSED [100%]

===== warnings summary =====

..\.AppData\Local\Programs\Python\Python313\lib\site-packages\\_pytest\cacheprovider.py:475: PytestCacheWarning: could not create cache path C:\Users\Vinu\Desktop\AI pair Programming\pytest\_cache\cache\nodeids: [winError 5] Access is denied: 'C:\Users\Vinu\Desktop\AI pair Programming\pytest\_cache-files-so1886c4' -> 'C:\Users\Vinu\Desktop\AI pair Programming\pytest\_cache'

-- Docs: <https://docs.pytest.org/en/stable/how-to/capture-warnings.html>

5 passed, 1 warning in 0.02s

Here we had create test cases for this question by using pytest so first we had installed pytest into our code by using terminal by running command of pip install pytest. After that by using copalite we had created the test cases for that question it includes some of the edge cases where the logic may fail