CS6474: Software Testing Laboratory
(Spring 2023)

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Contents

1 Pytest-Cov

Pytest is a Python testing framework that originated from the PyPy project. It can be used to write various types of software tests, including unit tests, integration tests, end-to-end tests, and functional tests. Its features include parametrized testing, fixtures, and assert re-writing.

Pytest fixtures provide the contexts for tests by passing in parameter names in test cases; its parametrization eliminates duplicate code for testing multiple sets of input and output; and its rewritten assert statements provide detailed output for causes of failures.

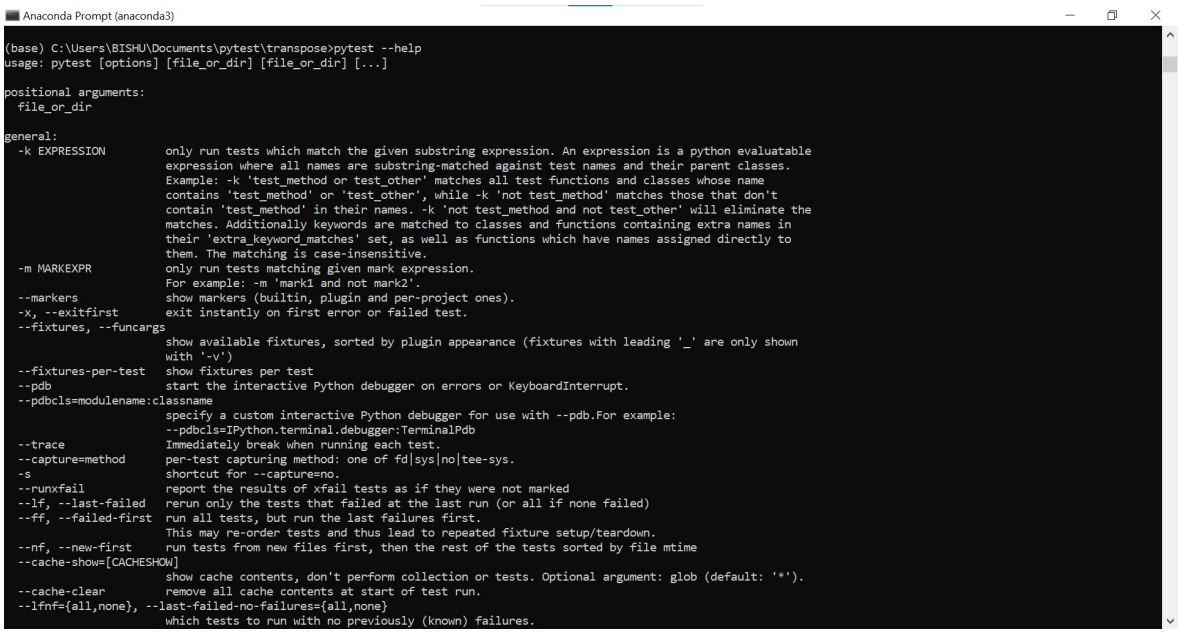

Figure 1: Pytest Options

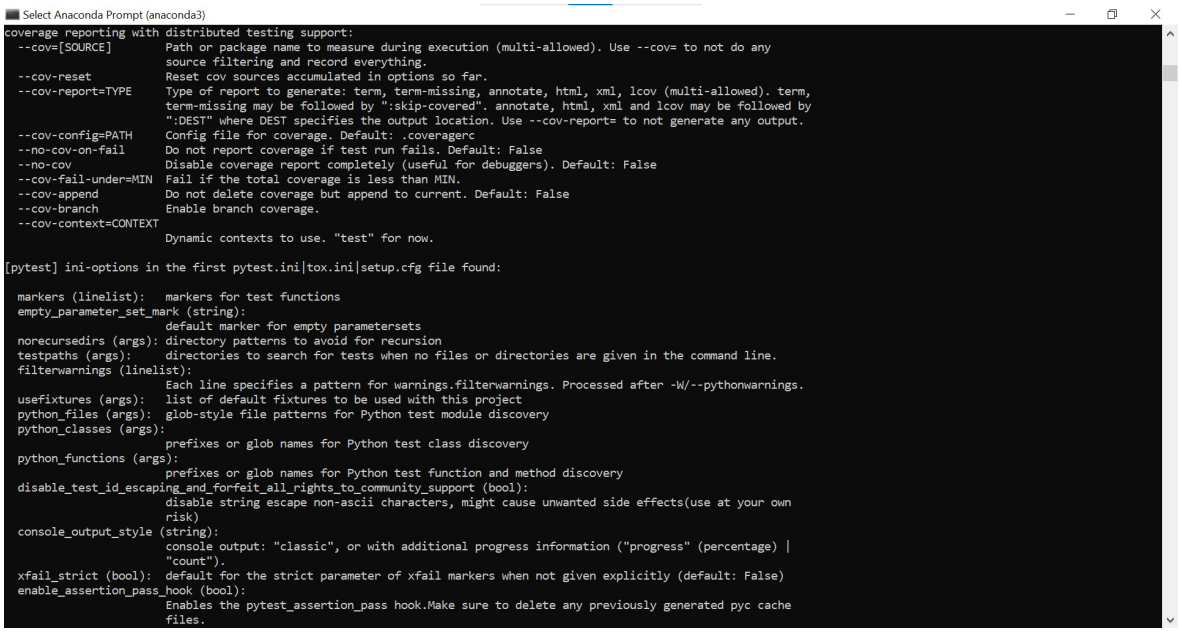

Figure 2: Pytest Options

Test the below programs in PyTest Tool

1.1 Write a program to generate a Factorial of numbers (where stack length should be at 3 (max)). The numbers should be 5, 3, 8, and 15.

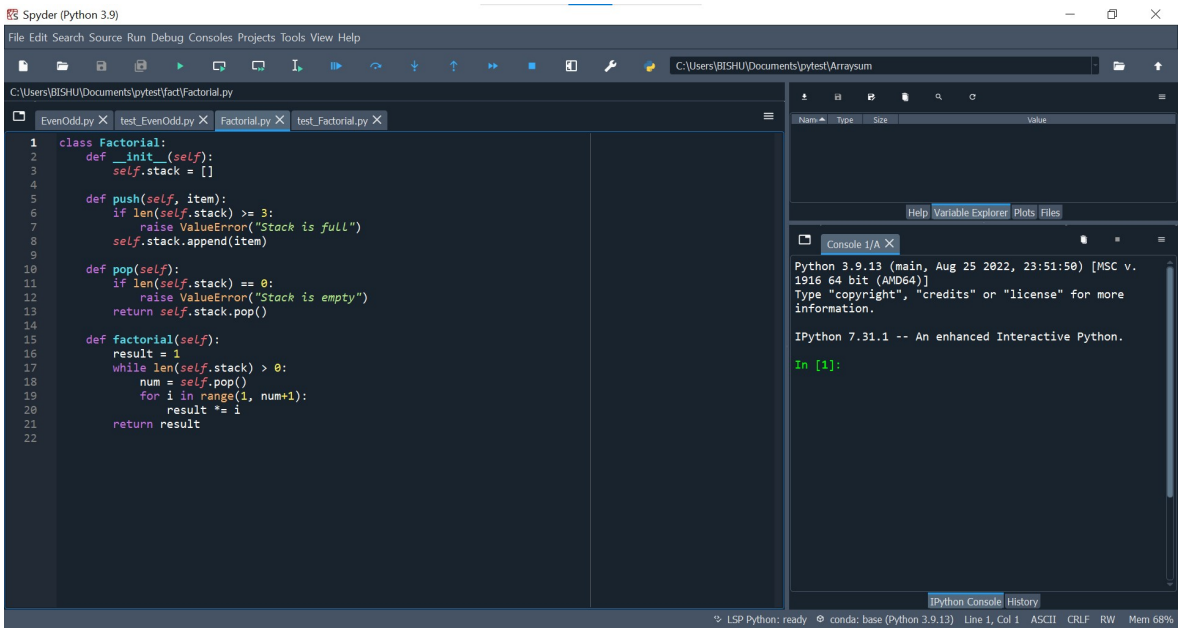

Figure 3: PyCOV Screenshot

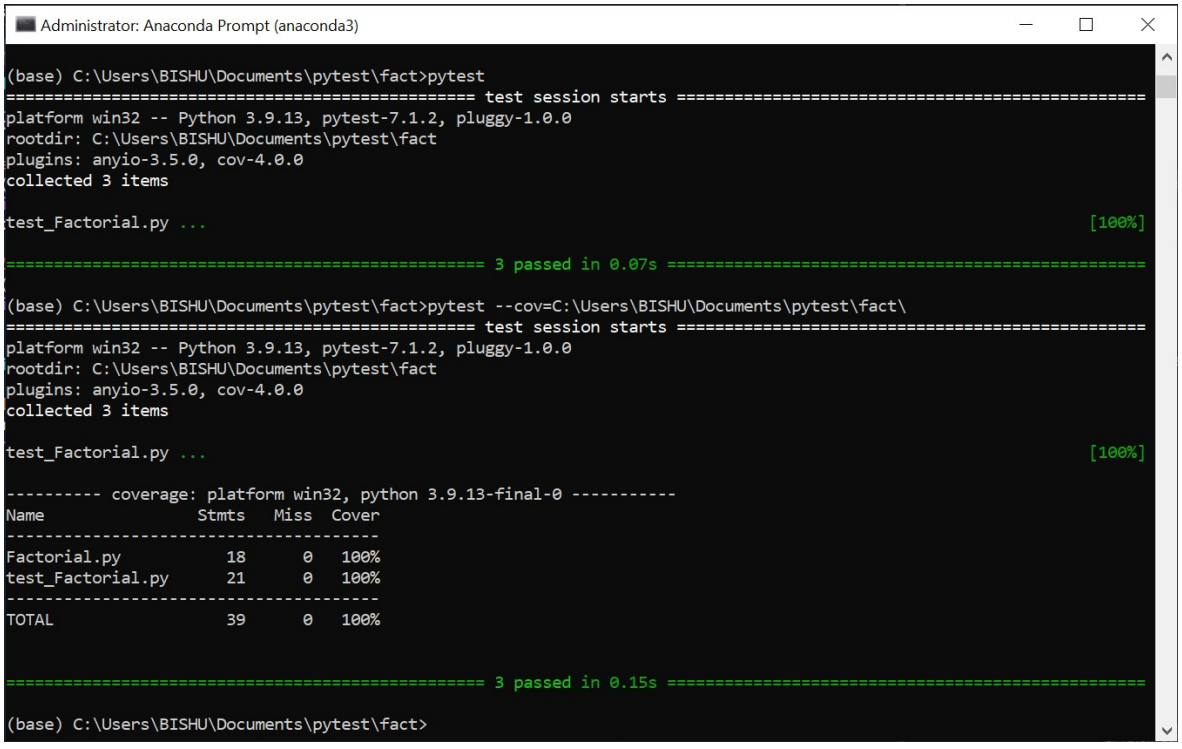

Figure 4: Factorial Code

1.2 Write a program to generate Fibonacci numbers.

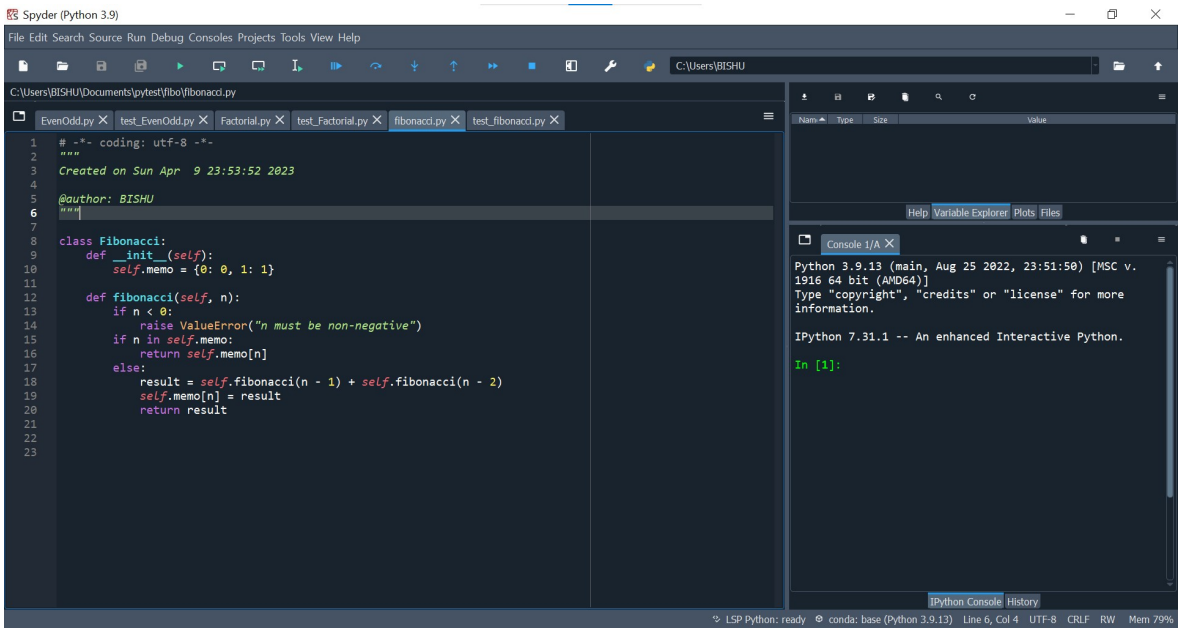

Figure 5: PyCOV Screenshot

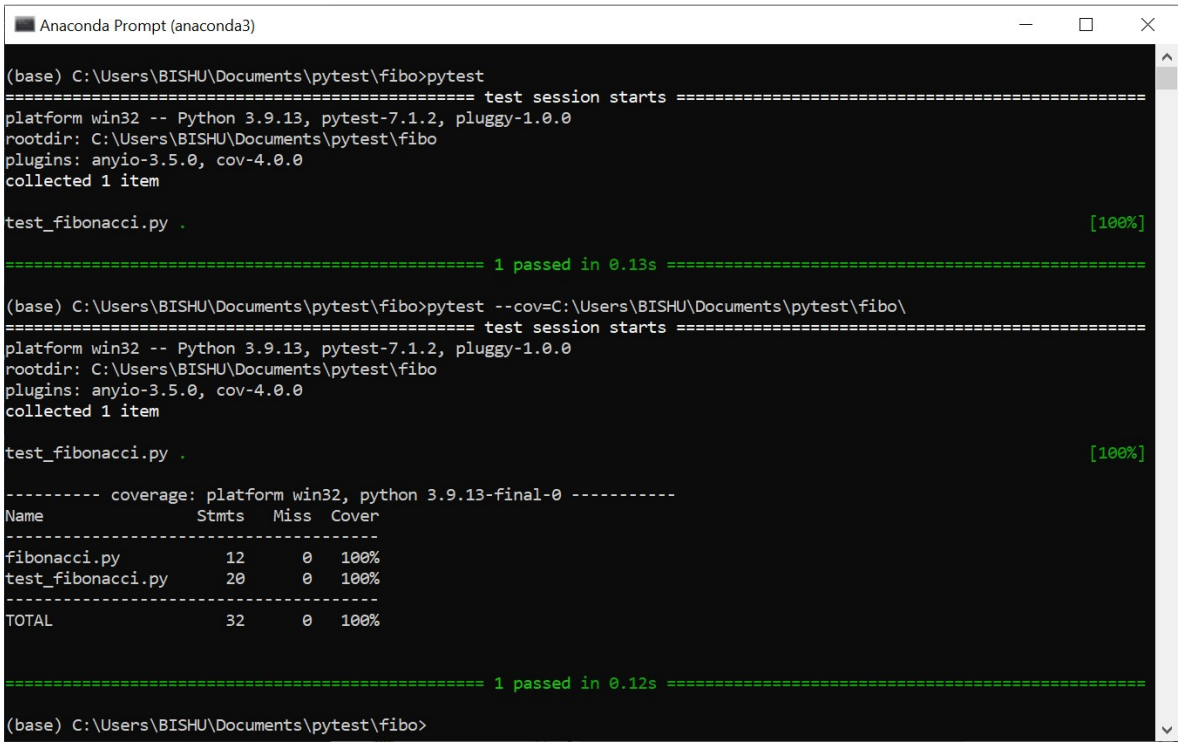

Figure 6: Fibonacci Code

1.3 Write a program that performs sorting of a group of integer values using the quick sort technique.

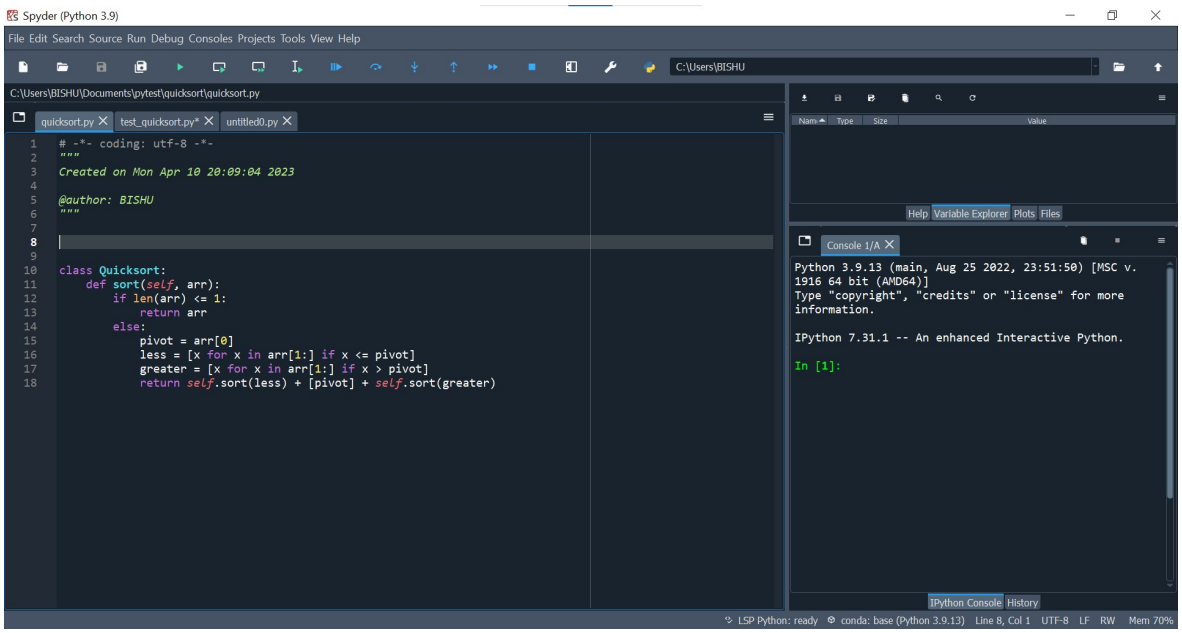

Figure 7: PyCOV Screenshot

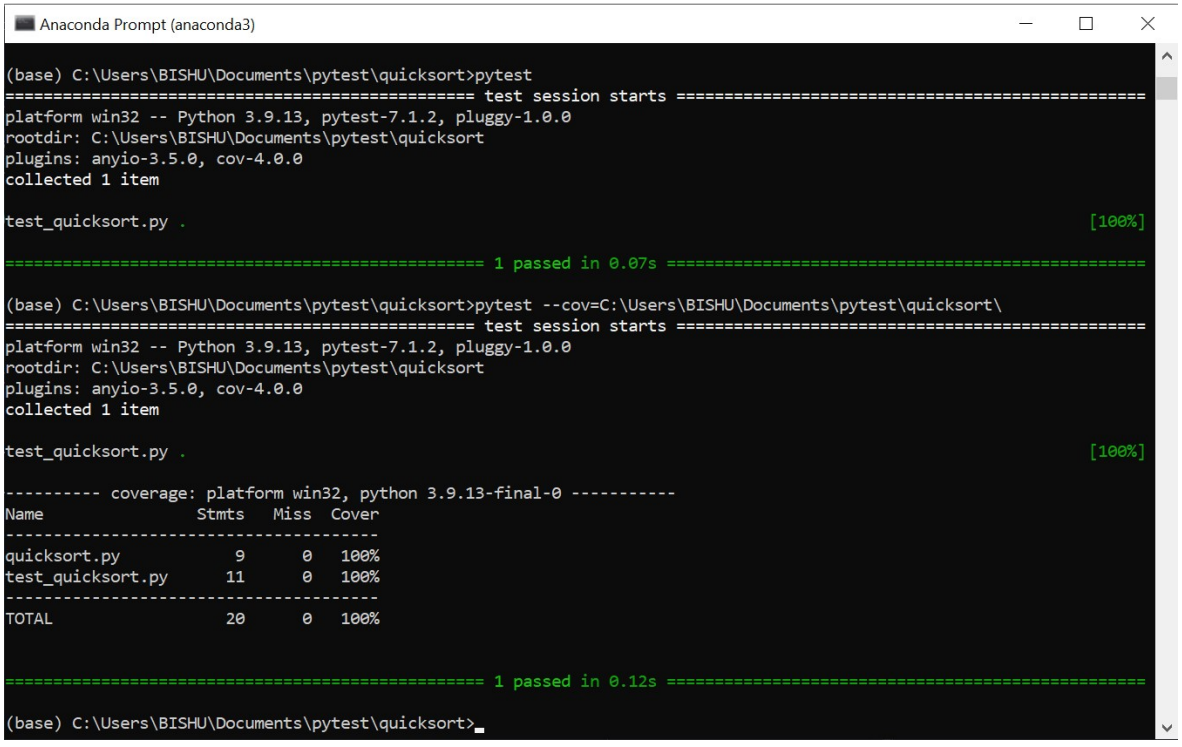

Figure 8: Quicksort Code

1.4 Write a program that accepts elements of a matrix and displays its transpose.

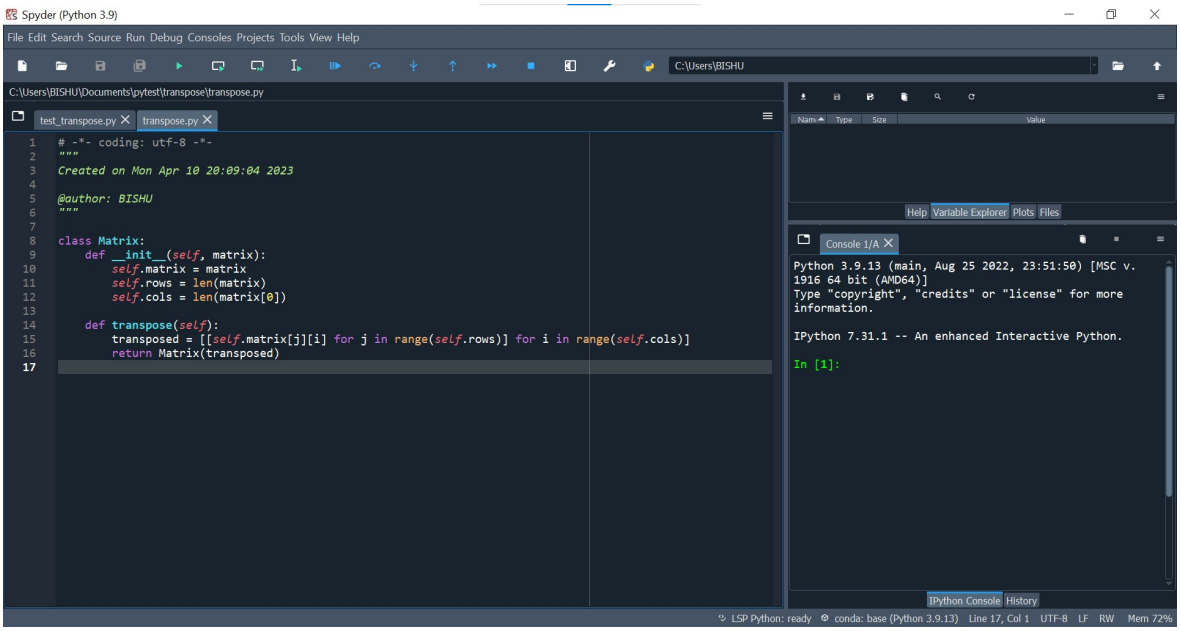

Figure 9: PyCOV Screenshot

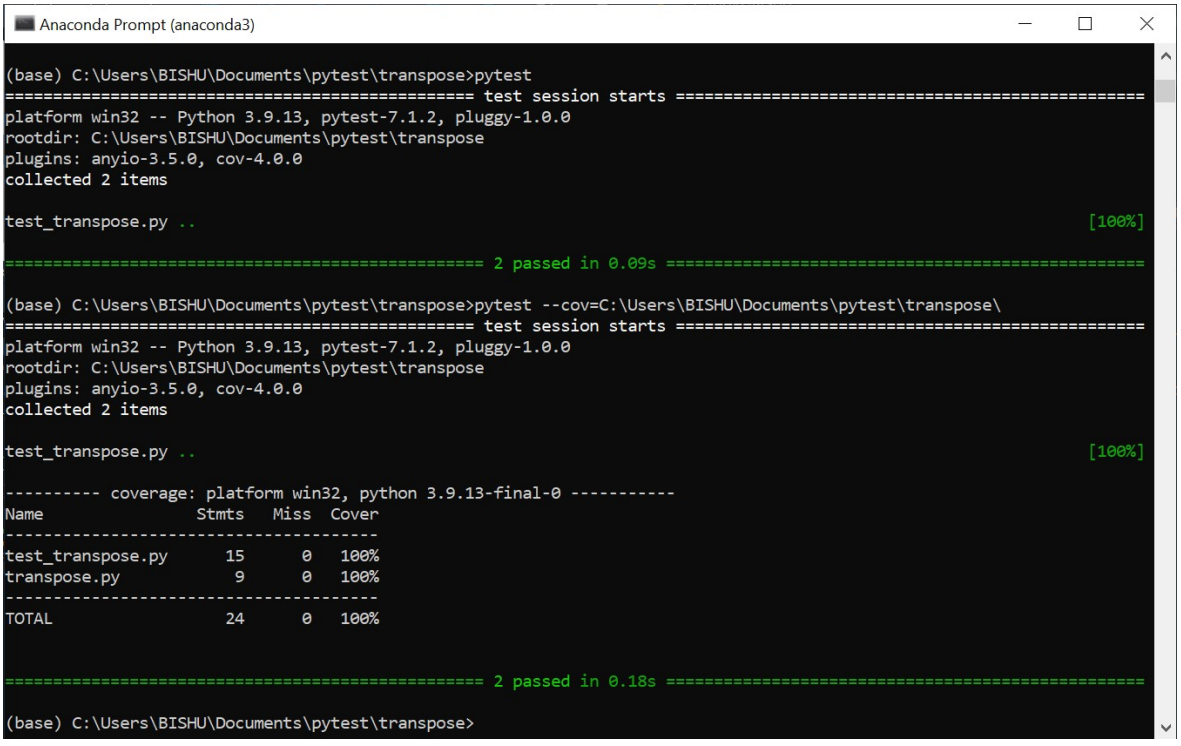

Figure 10: Matrix Transpose Code

1.5 Write a program to add two matrices and display the sum matrix.

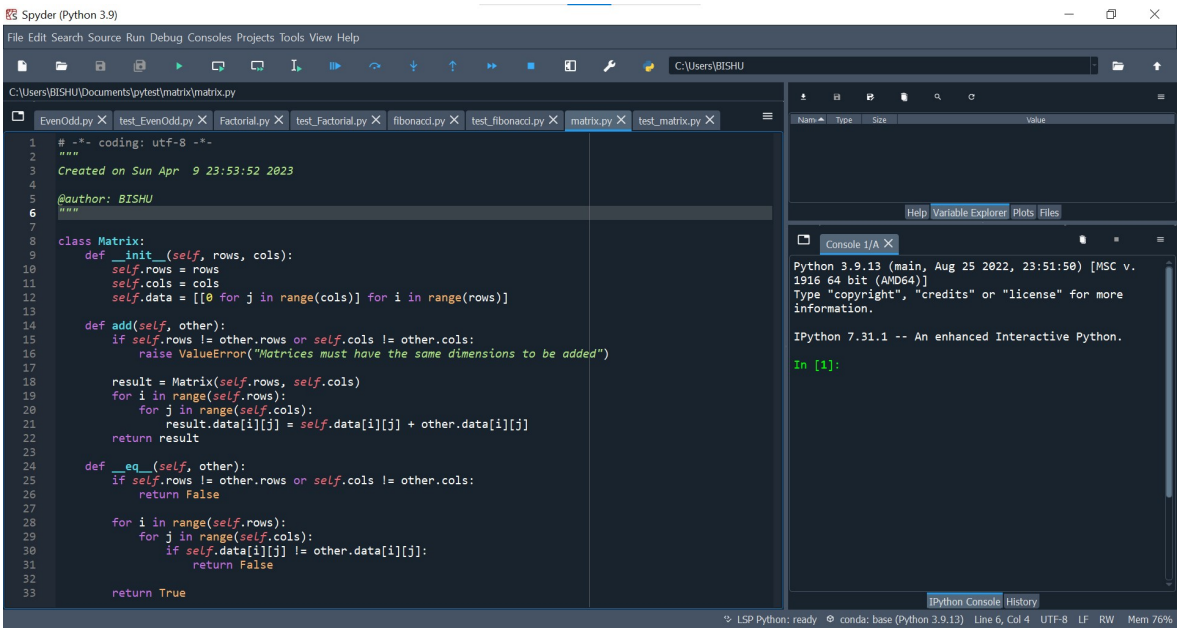

Figure 11: PyCOV Screenshot

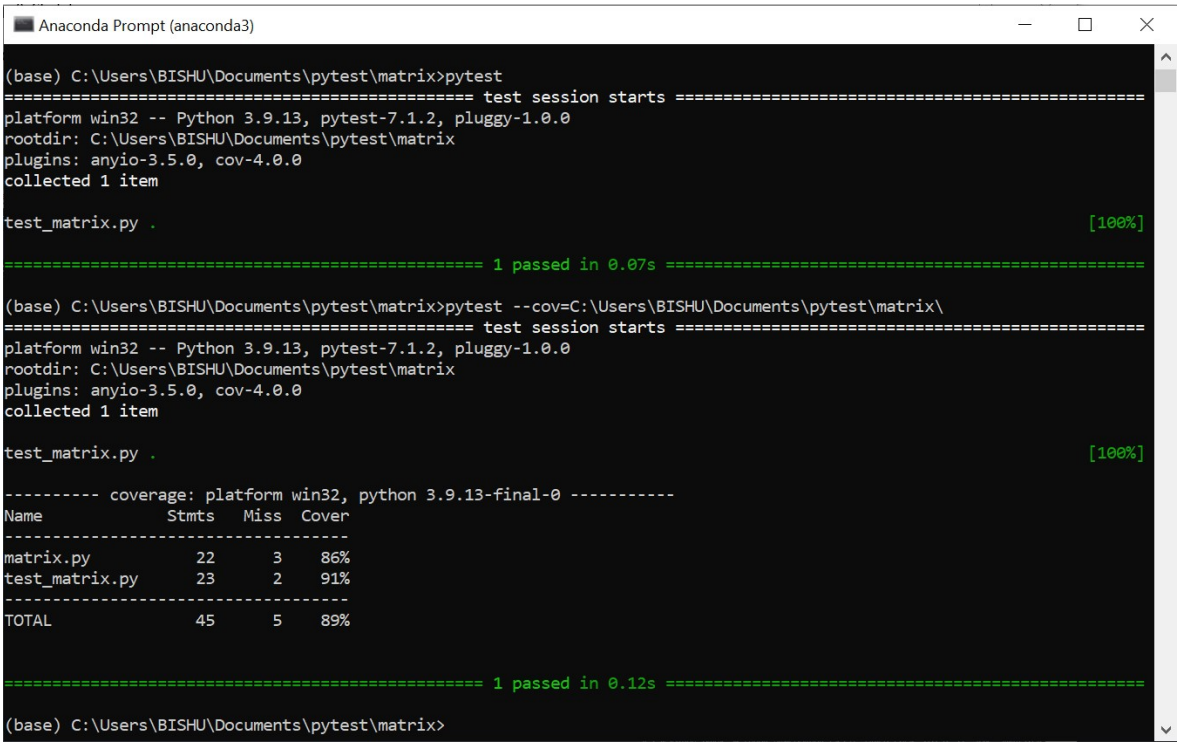

Figure 12: Matrix Addition Code

1.6 Write a program to Print Prime Numbers from 1 to 100 using Scanner Class and For Loop.

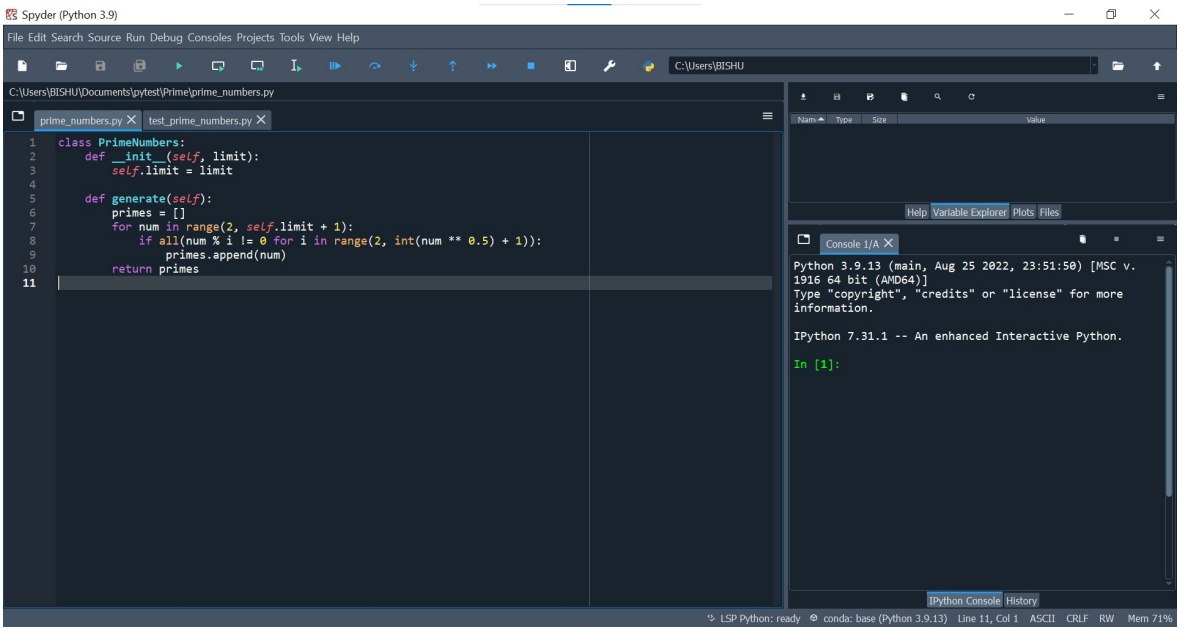

Figure 13: PyCOV Screenshot

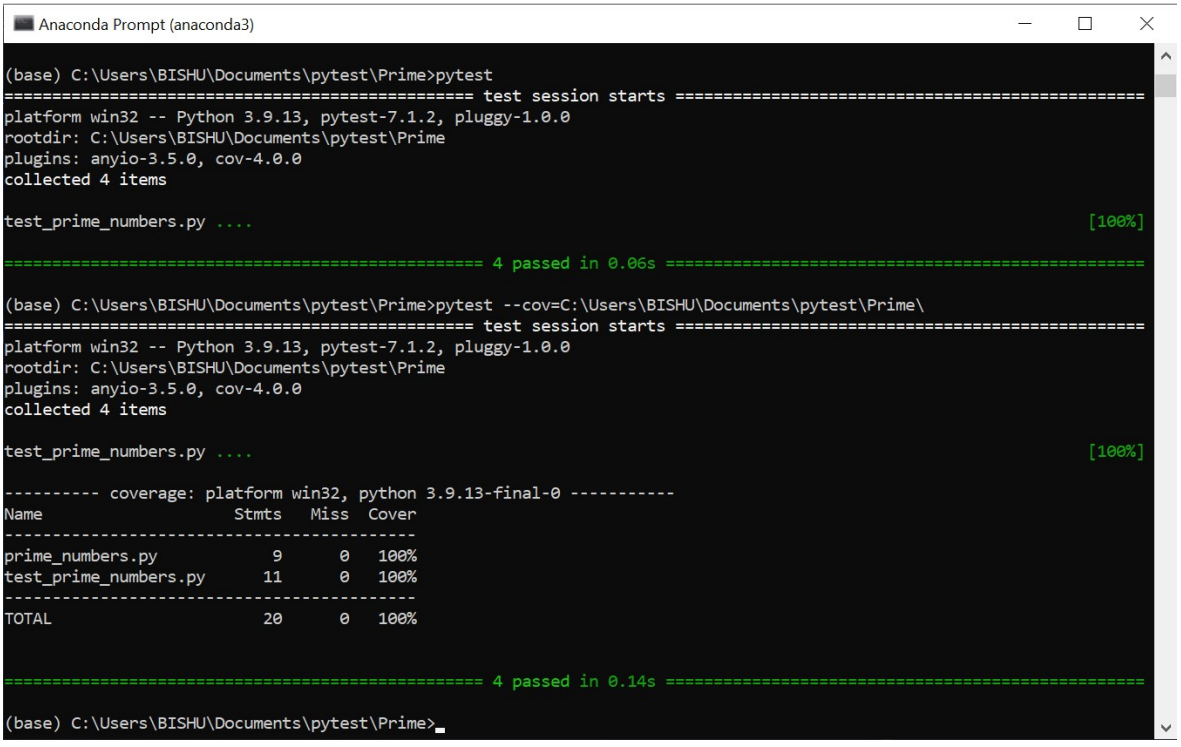

Figure 14: Prime Code

1.7 Write a program to generate a palindrome of numbers.

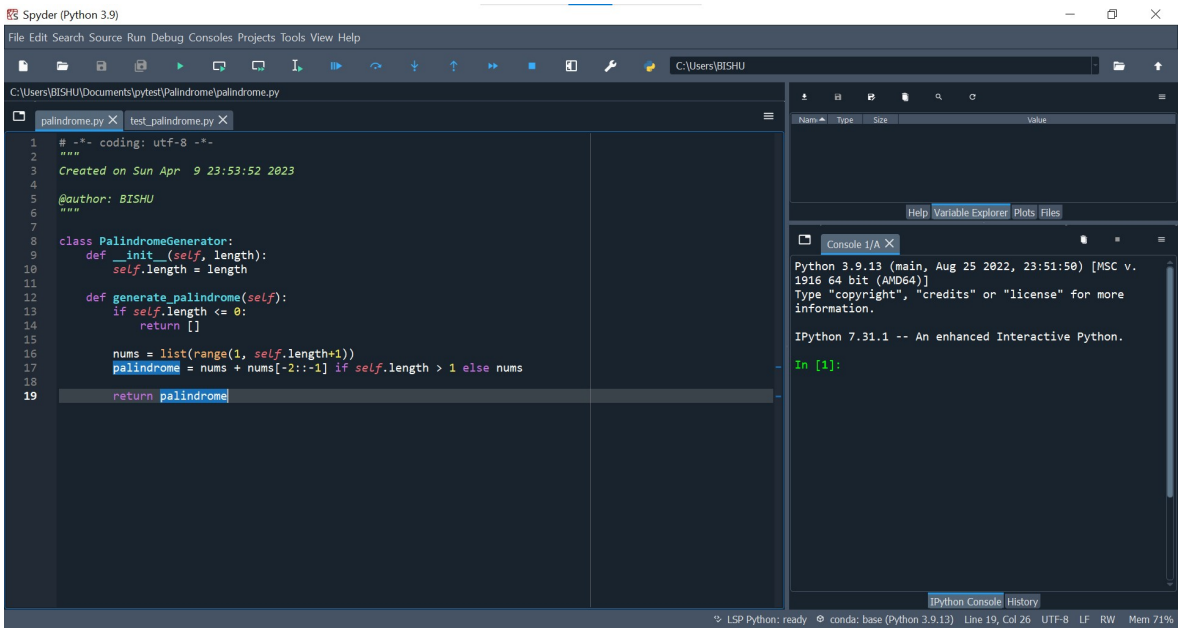

Figure 15: PyCOV Screenshot

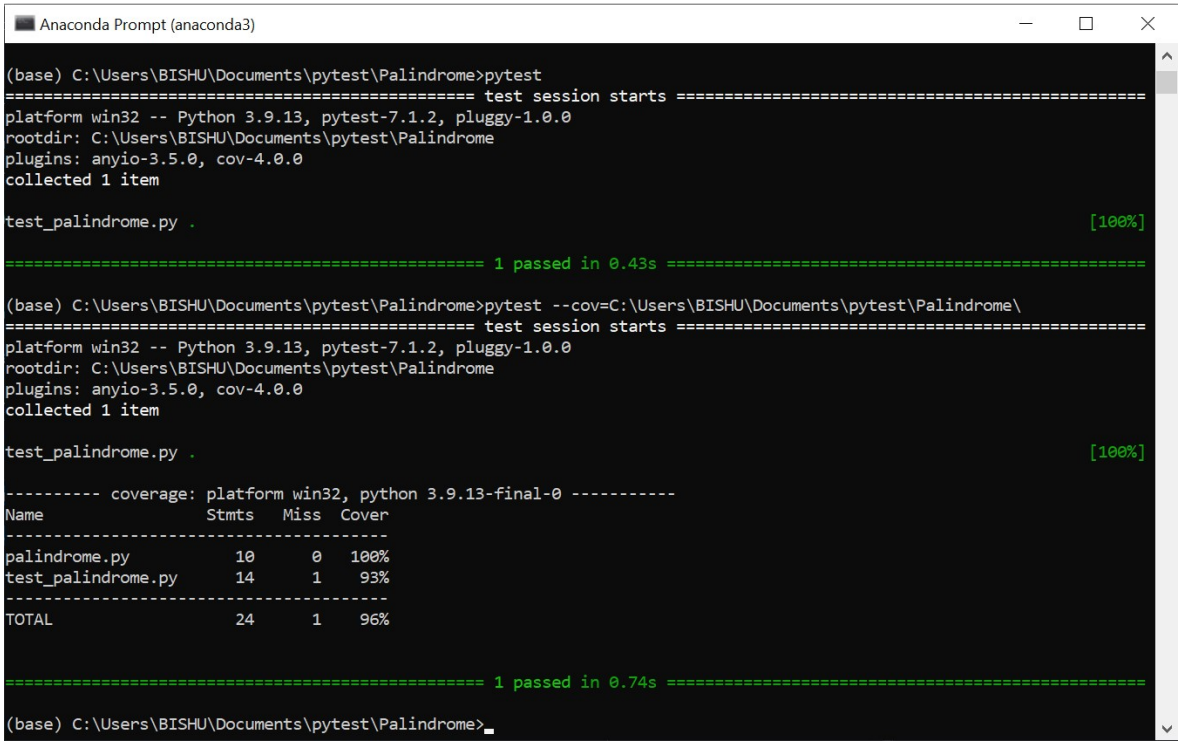

Figure 16: Palindrome Code

1.8 Write a program to find out the sum of two arrays.

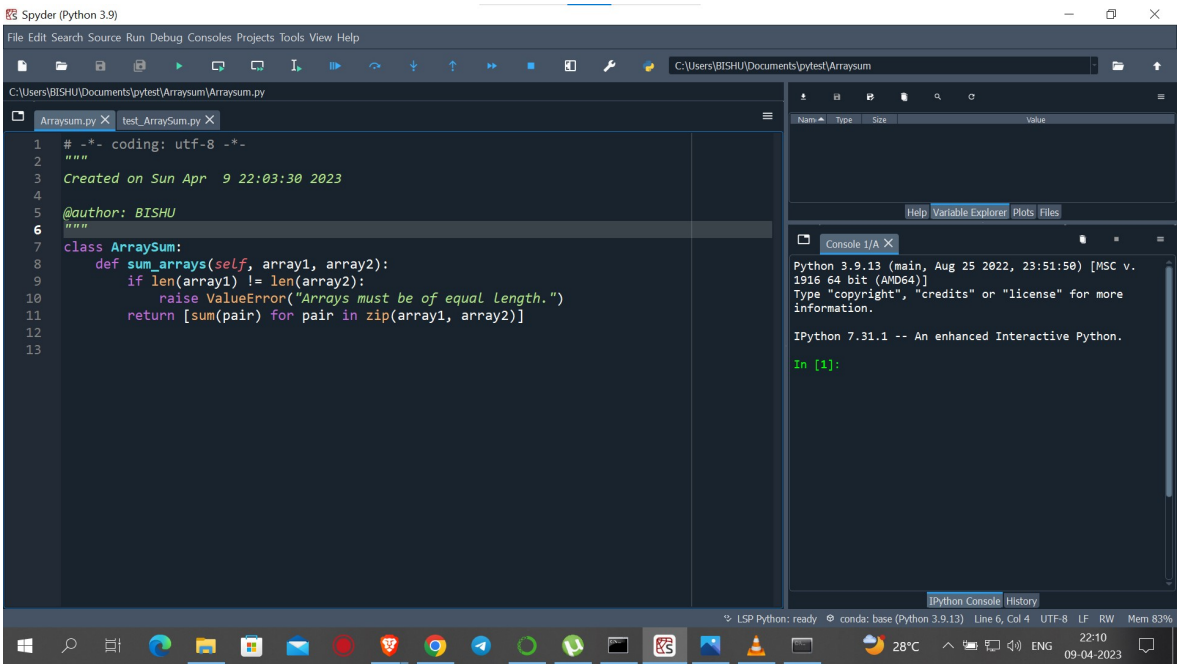

Figure 17: PyCOV Screenshot

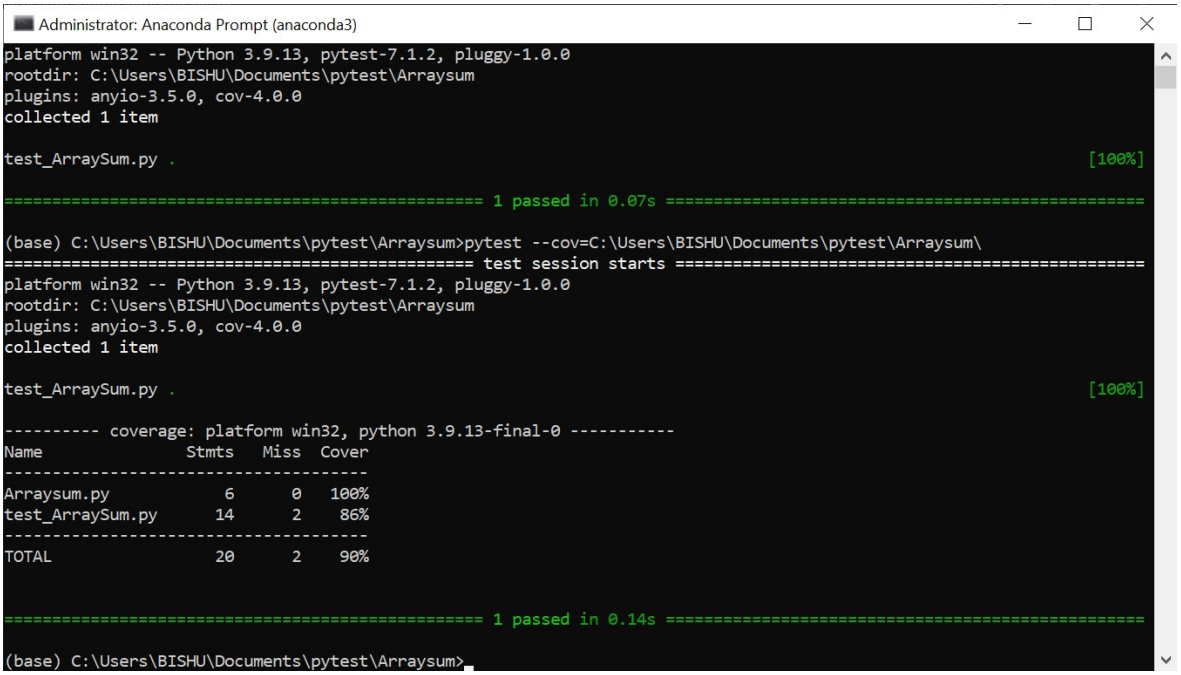

Figure 18: Sum of Array Code

1.9 Write a program to check whether the number is even or odd.

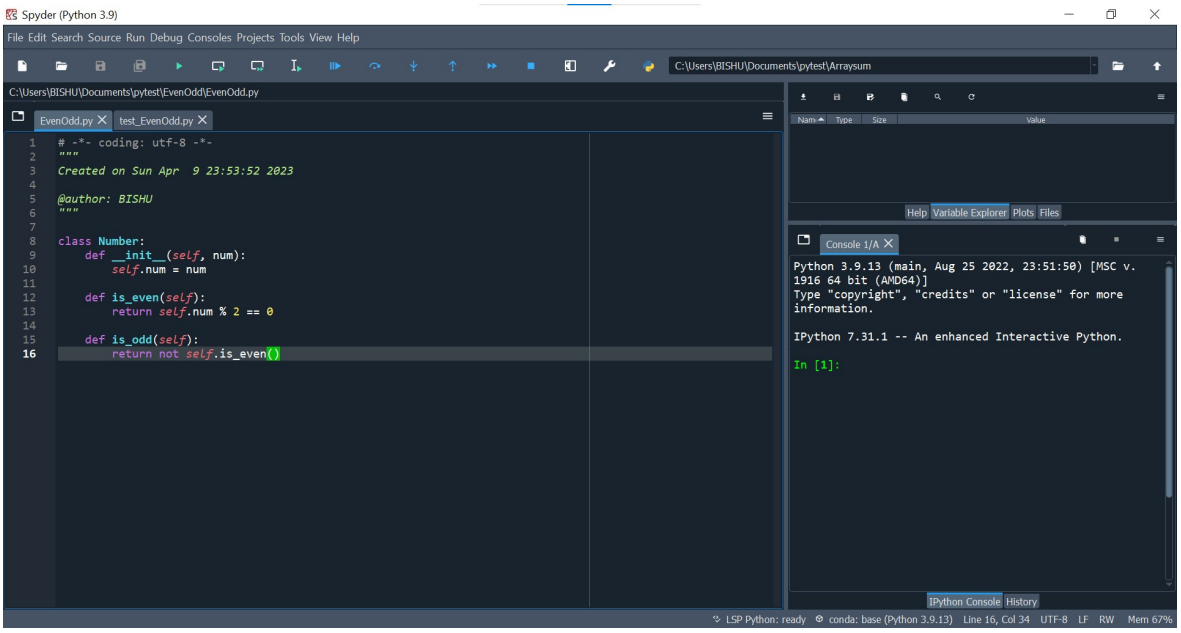

Figure 19: PyCOV Screenshot

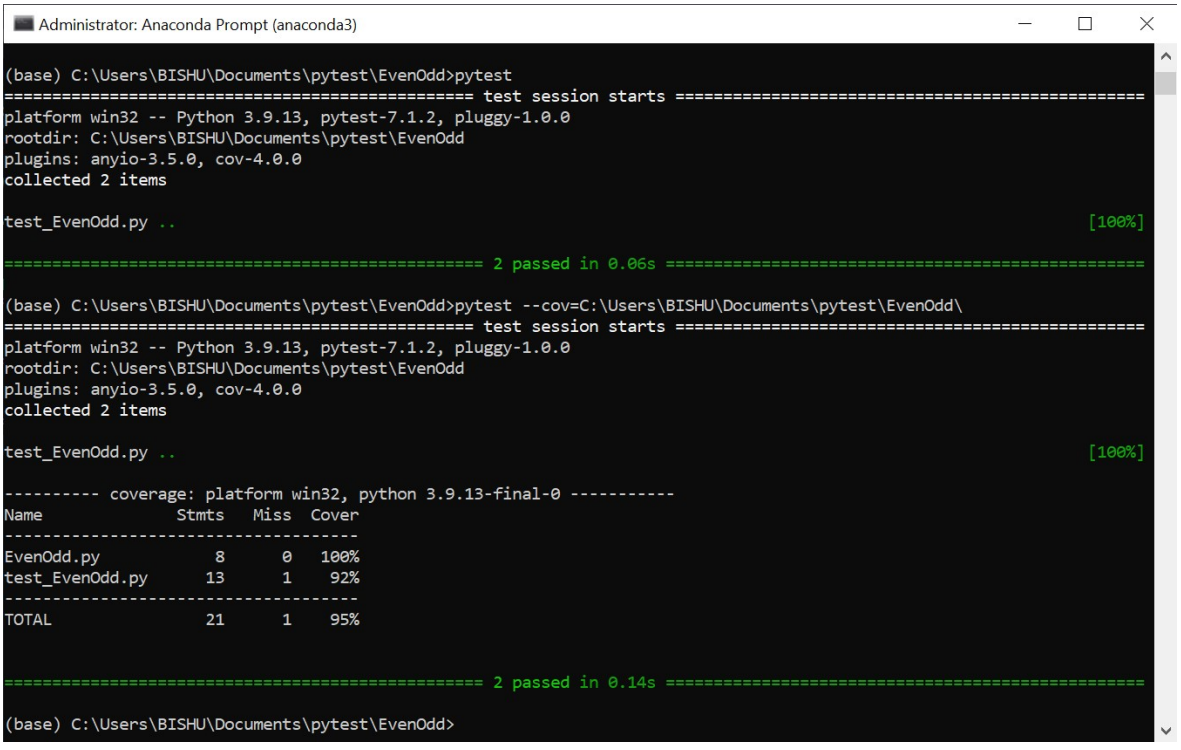

Figure 20: Odd or Even Code

1.10 Write a program for binary to hexadecimal conversion.

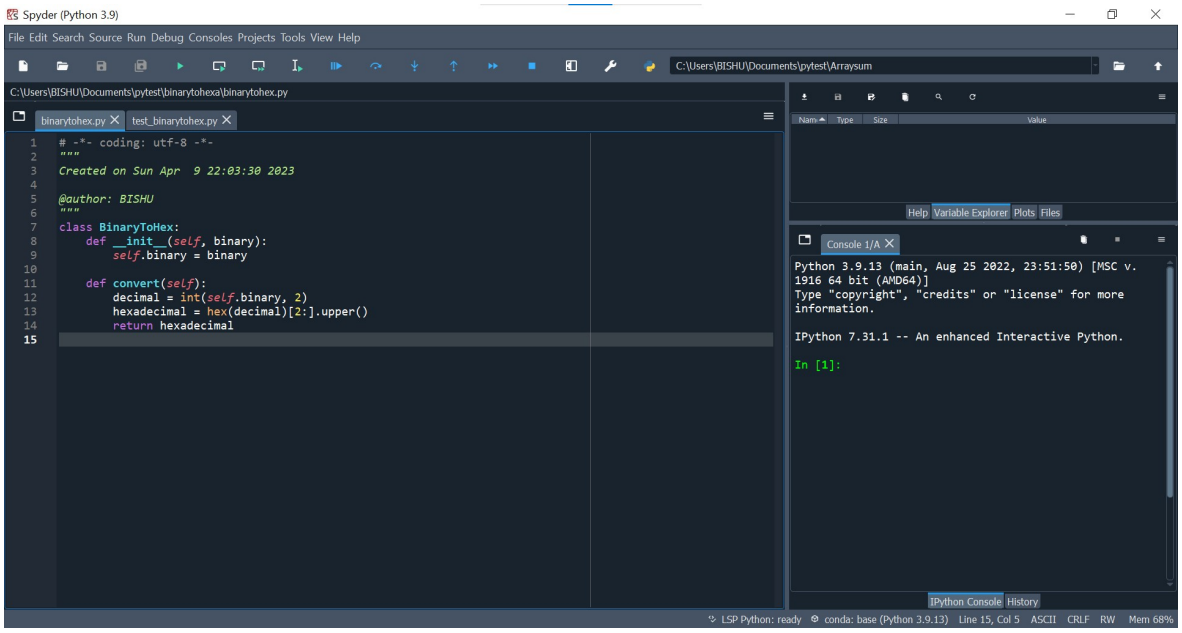

Figure 21: PyCOV Screenshot

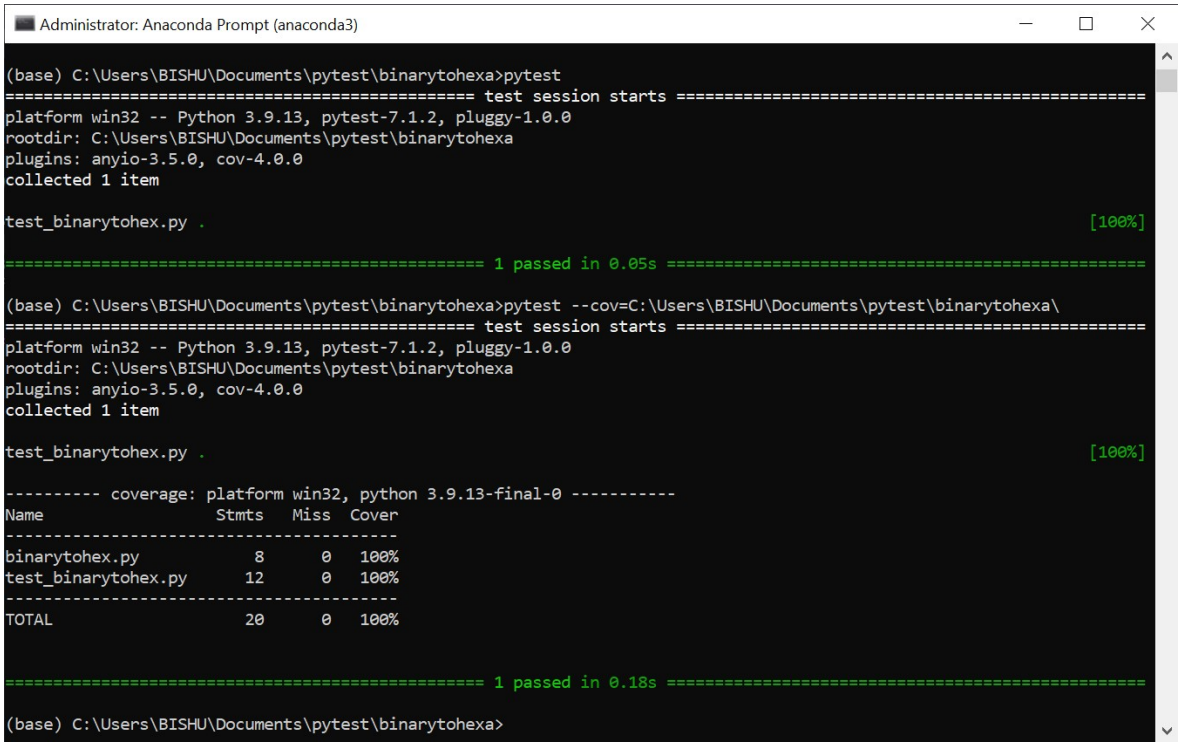

Figure 22: Binary to Hexadecimal Code