ASSESSMENT – 1

Submitted by

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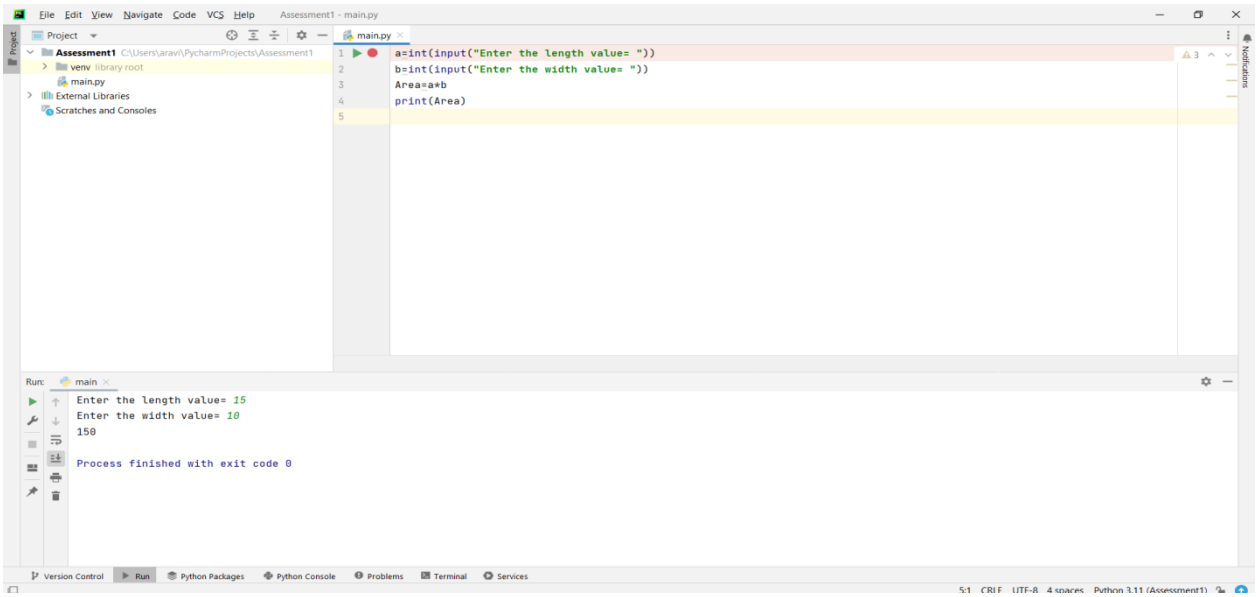
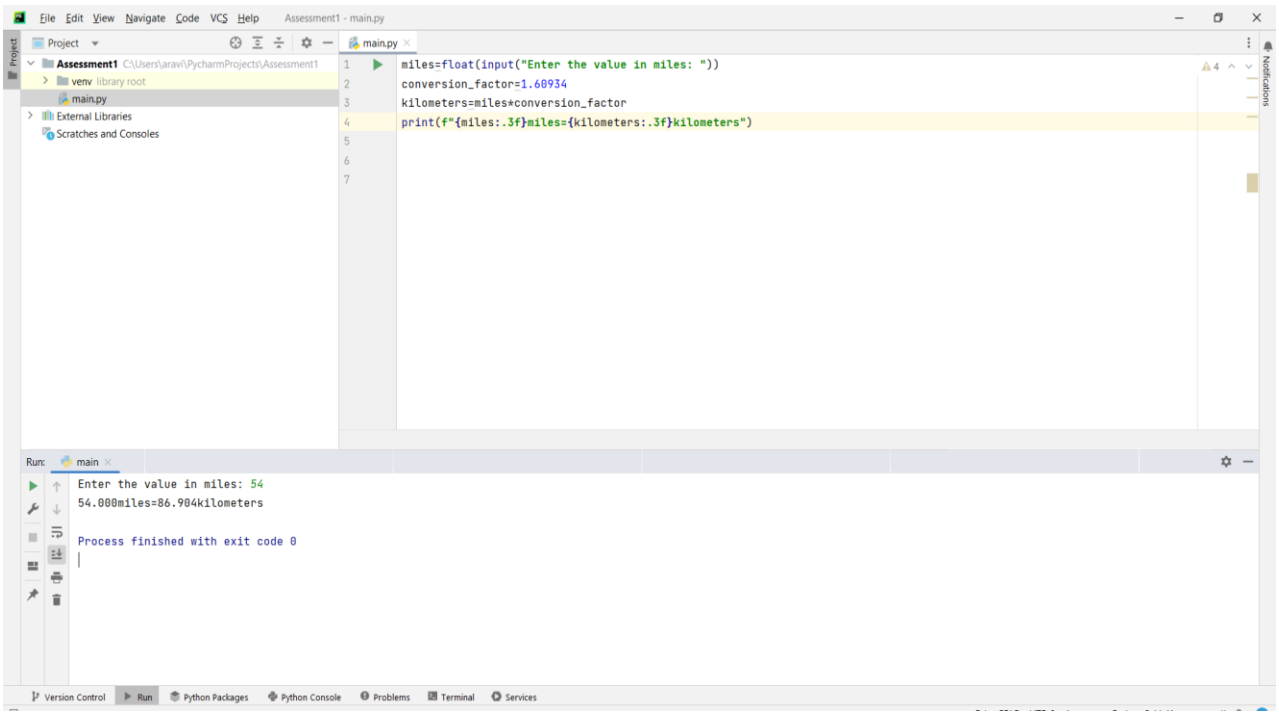
1. Write a Python program to calculate the area of a rectangle given its length and width.

   Program :



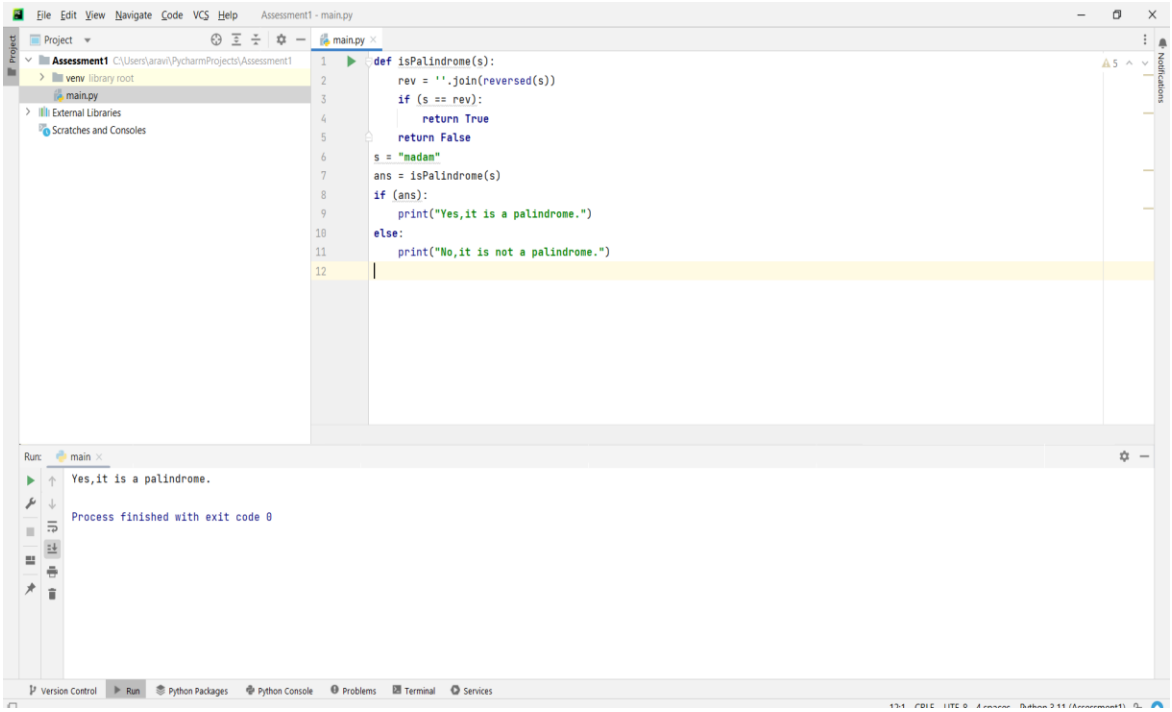
2. Write a program to convert miles to kilometers.

   Program :



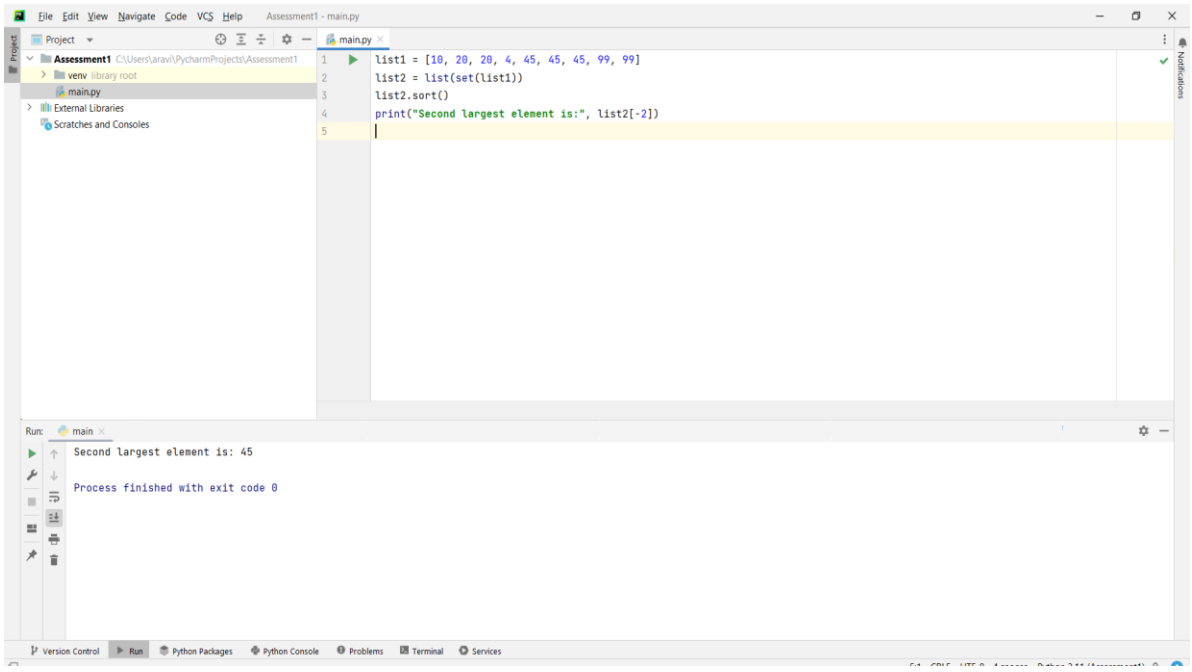
3. Write a function to check if a given string is a palindrome.

   Program :



4. Write a Python program to find the second largest element in a list.

   Program:



5. Explain what indentation means in Python.

Ans. In Python, indentation refers to the spaces or tabs at the beginning of a line of code that indicate the block of code it belongs to. It is used to define the structure and hierarchy of code blocks, such as loops, conditional statements, and function definitions. Consistent indentation is crucial in Python because it replaces the need for curly braces or keywords to denote blocks, making the code more readable.

1. Consistency: Python relies heavily on indentation to determine the structure of code. Consistent indentation ensures that the code is organized and easy to understand.

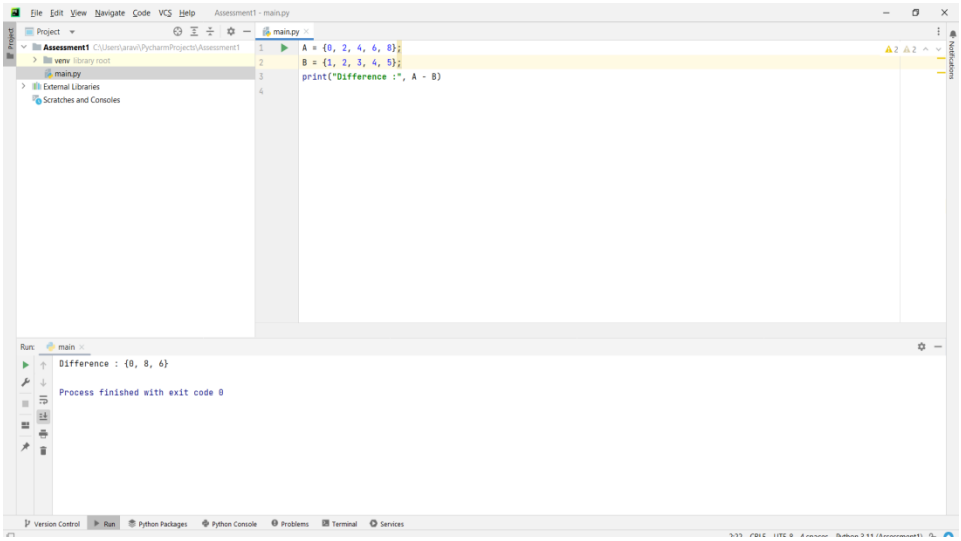
2. Whitespace: Indentation is a form of whitespace in Python. It can be either spaces or tabs, but it's recommended to stick to one style throughout a codebase to avoid confusion.

3. Nested Blocks: Indentation allows for the nesting of code blocks within each other. For example, within a function, you might have nested loops or conditional statements, and their indentation levels indicate their relationship.

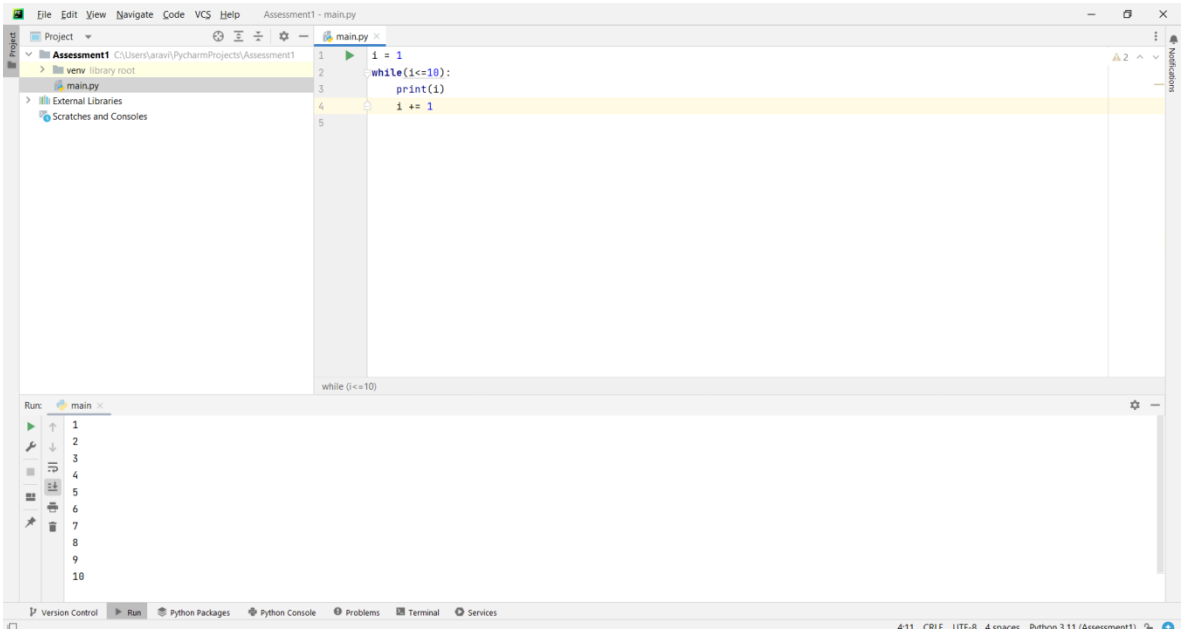
4. No Braces: Unlike many other programming languages that use braces {} to denote code blocks, Python uses indentation exclusively. This can sometimes catch new Python developers off guard if they're used to languages with explicit block delimiters.

5. Enforced by Syntax: Incorrect indentation in Python will result in a syntax error. This strict enforcement ensures that code is well-structured and readable.

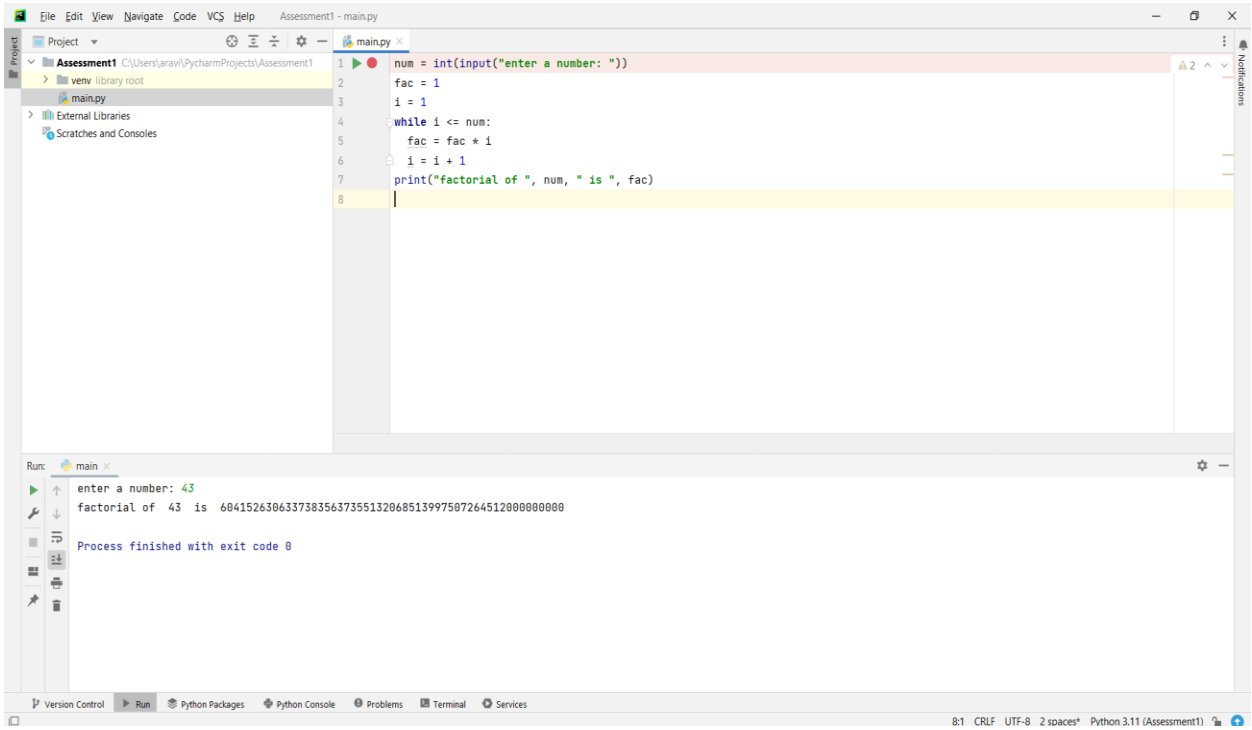
6. Write a program to perform set difference operation.



7. Write a Python program to print numbers from 1 to 10 using a while loop.
   Program :

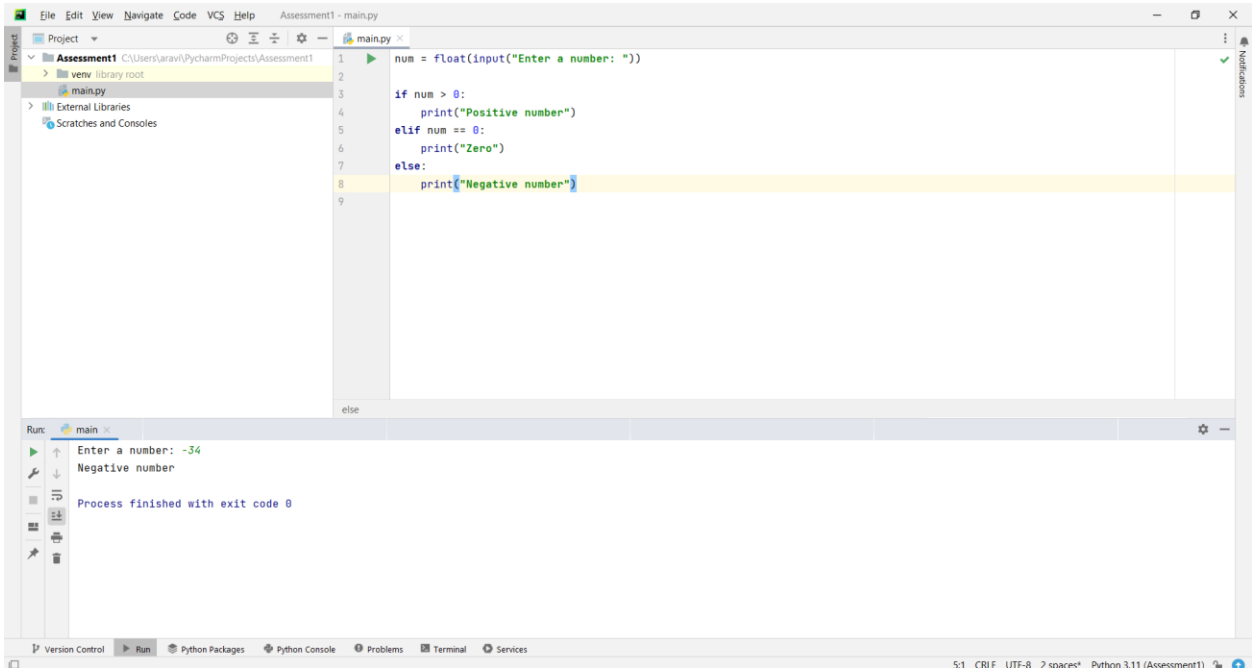


8. Write a program to calculate the factorial of a number using a while loop.
   Program:



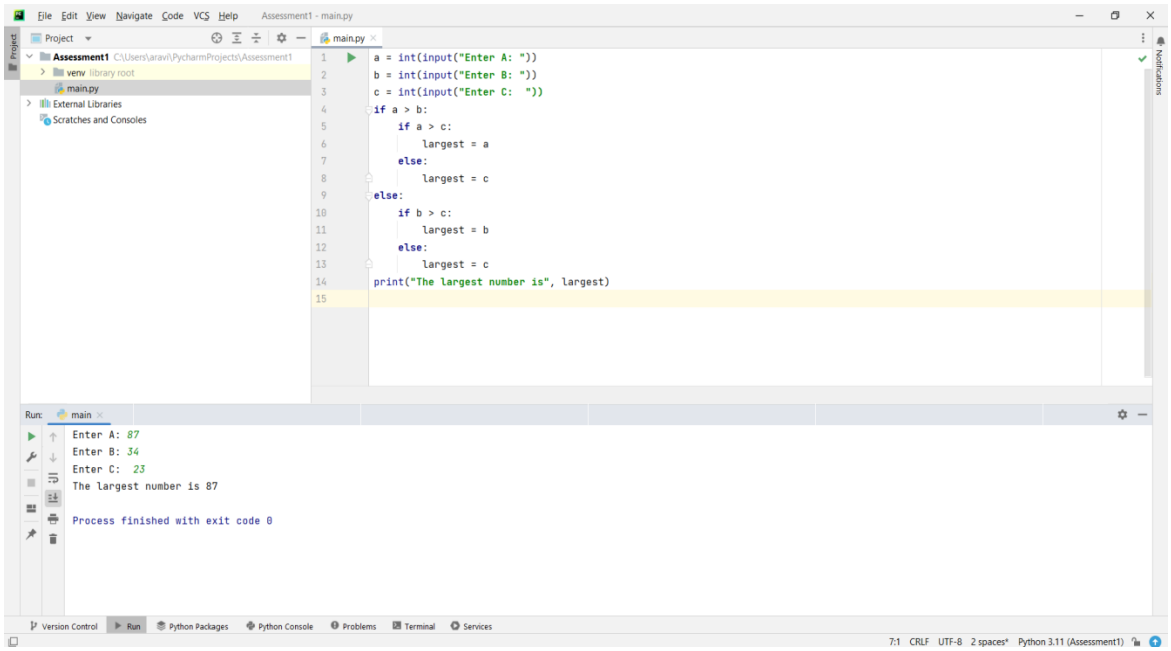
9. Write a Python program to check if a number is positive, negative, or zero using if-elif-else statements.

Program:



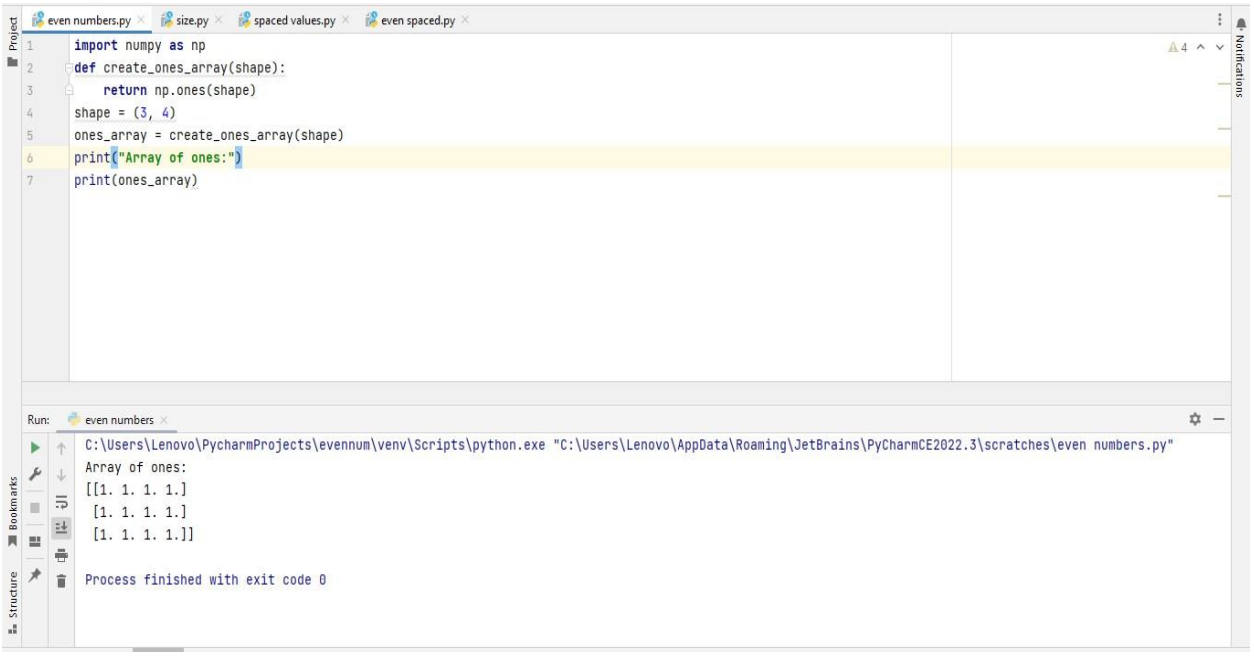
10. Write a program to determine the largest among three numbers using conditional statements.

Program :



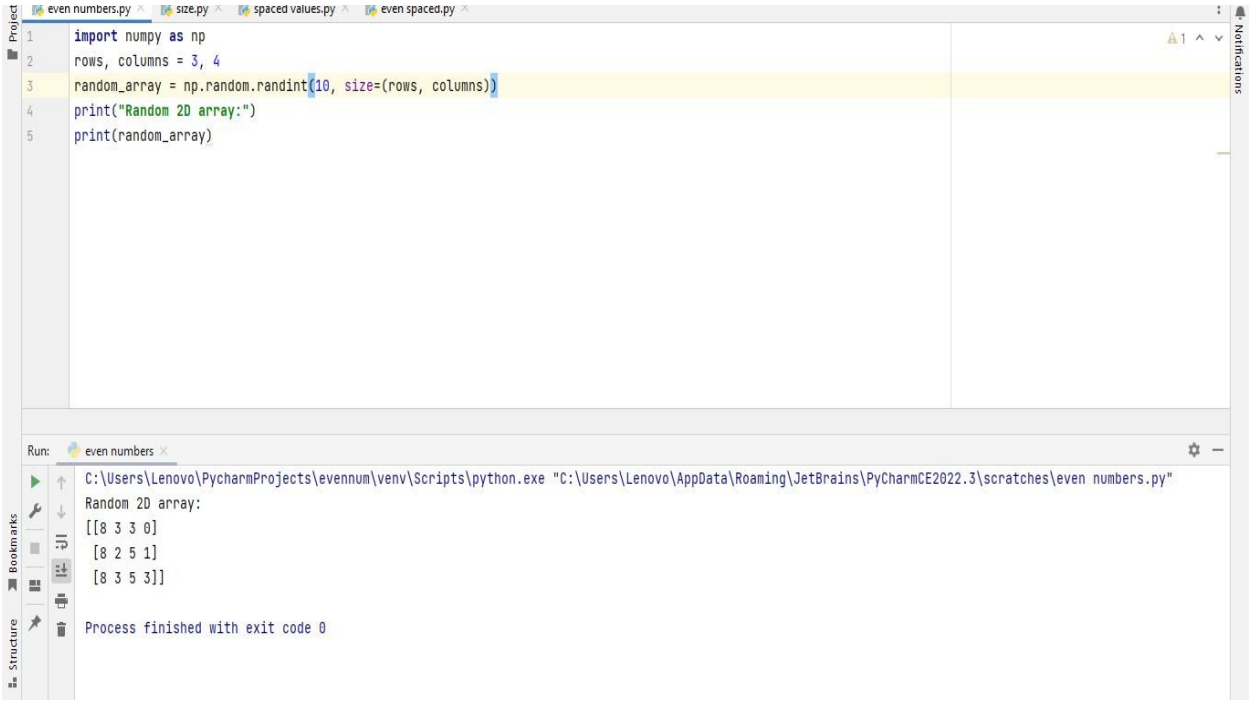
11. Write a Python program to create a numpy array filled with ones of given shape.

Program :



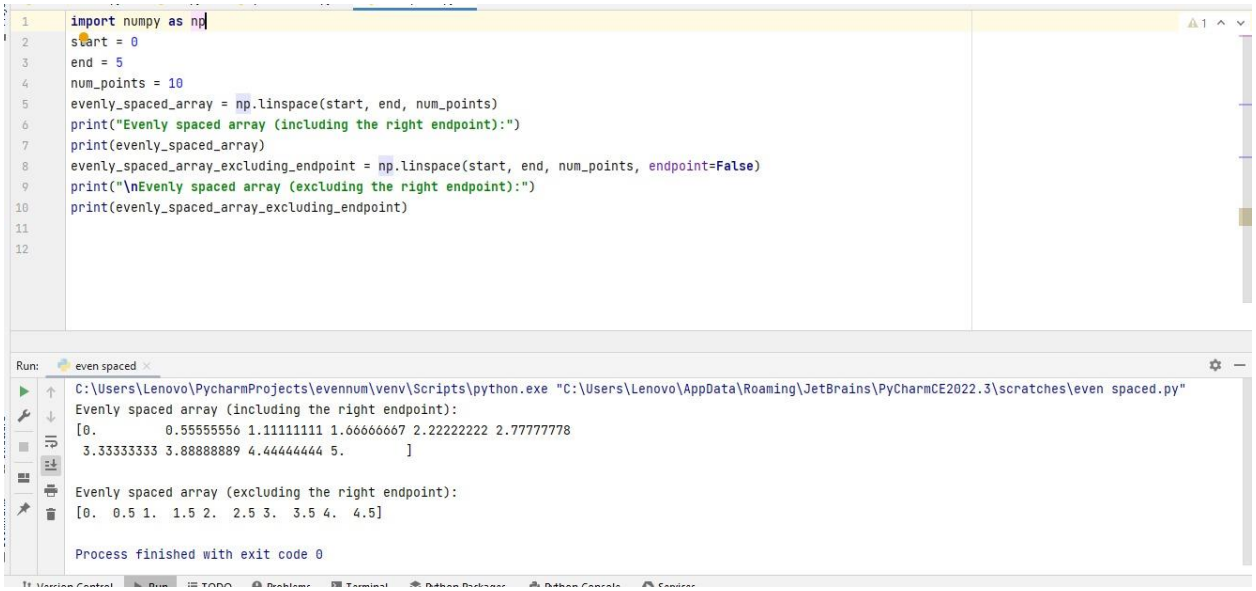
12. Write a program to create a 2D numpy array initialized with random integers.

Program :



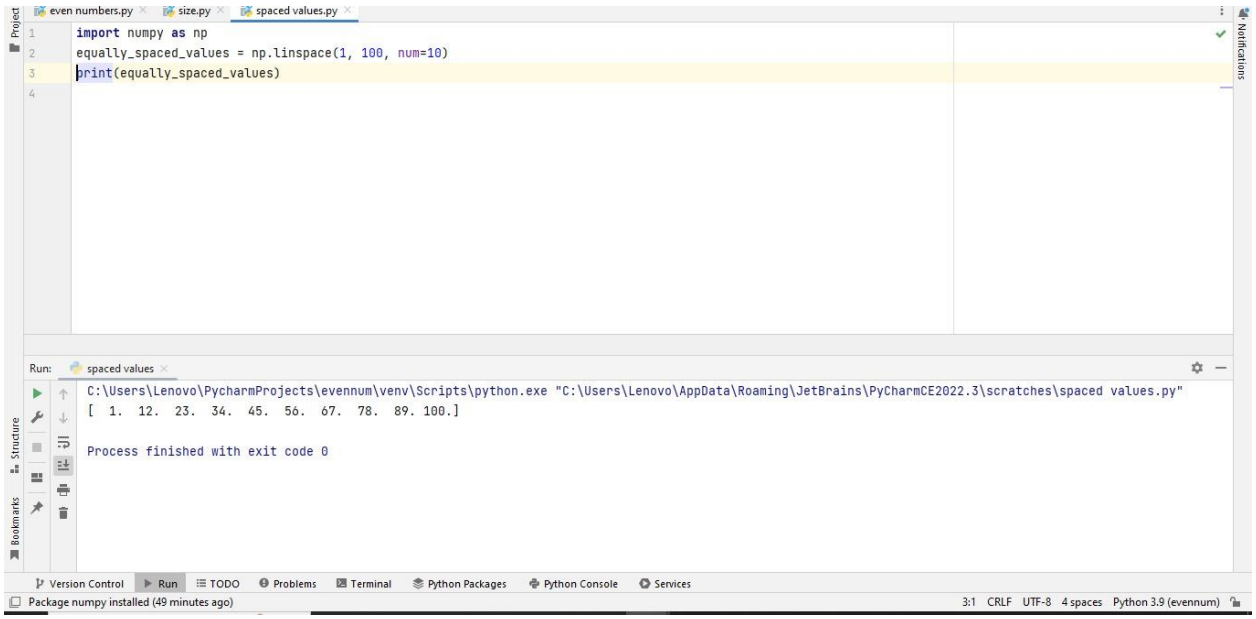
13. Write a Python program to generate an array of evenly spaced numbers over a specified range using linspace.

Program :



14. Write a program to generate an array of 10 equally spaced values between 1 and 100 using linspace.

Program :



15. Write a Python program to create an array containing even numbers from 2 to 20 using arange.

Program :

16. Write a program to create an array containing numbers from 1 to 10 with a step size of 0.5 using arange.

Program :