Assignment #3

Programming Fundamentals

Deadline: 13/12/2023

Guidelines:

1. Must be Handwritten along with output of your laptop screen
2. Upload on Moellim in PDF

Questions

1. Declare an integer array of size 5 and initialize it with the first 5 prime numbers.
2. Write a program to calculate and print the sum and average of elements in an integer array.
3. Given a square matrix, calculate and print the sum of its diagonal elements.
4. Determine the maximum difference between two consecutive elements in an array.
5. Print the following pattern using nested loops:

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6. Given two arrays, find and print the common elements between them.
7. Write a program to transpose a given 3x3 matrix.
8. Rotate the elements of an array to the left by a given number of positions.
9. Print the following pattern using nested loops:

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10. Write a program
11. Generate the first 8 numbers of the Fibonacci sequence and store them in an array.
12. Implement a sorting algorithm to sort the elements of an array in ascending order.
13. Generate and print a spiral matrix of size 4x4.
14. Create an array of the first 6 even numbers
15. Declare an integer array of size 5 and initialize it with values 1 to 5.

16. **Calculate and print the average of elements in a float array.**
17. **Create an array of the first 5 odd numbers**