**Lab # 14**

**Open Ended Lab**

**Task01:**

Apply Breadth First Search on following graph considering the initial state is A and final state is F. Show results in form of open and closed list.

**A diagram of a network

Description automatically generated**

**Source Code:**

A screenshot of a computer program

Description automatically generated

A computer code with text

Description automatically generated with medium confidence

**Output:**

A screenshot of a computer

Description automatically generated

**Task02:**

Apply Depth First Search on the graph given in question 1. Considering the initial state is A and final state is F. Show results in form of open and closed list.

**Source Code:**

A screenshot of a computer program

Description automatically generated

**Output:**

A screenshot of a computer

Description automatically generated

**Task03:**

Create a Class “Employee”, it’s a common base class for all the employee. Then initialize employee’s parameter like empName, empID and salary and create function like displayCount() contain total number of employee in your knowledge base and displayEmployee() contain empName, empID and their salary.

**Source Code:**

A computer screen shot of a number of numbers

Description automatically generated

**Output:**

A black text on a white background

Description automatically generated

**Task04:**

Design a Python program to perform the following tasks using dictionaries:

Create an empty dictionary named student\_db to store student information. Implement a function add\_student that takes student ID, name, and grade as parameters, Implement a function display\_students. Implement a function get\_average\_grade that calculates and returns the average grade of all students in the student\_db. Create instances of students in the student\_db, invoke the functions you implemented, and demonstrate their functionality.

**Source Code:**

A screenshot of a computer program

Description automatically generated

**Output:**

A white text on a white background

Description automatically generated

**Uploading Tasks on Github:**

A screenshot of a computer

Description automatically generated

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