Marking guide:

**There are 25 \* N marks in total in this assignment where N = 2. Marks are awarded based on correctness.**

1. Identifying **N** design patterns used in the frameworks in this assignment (5 \* N marks)
   1. The name of the design pattern identified (N marks)
   2. The locations of code involved in the framework (i.e., file name & line numbers) (2 \* N marks)
   3. The class diagram of the design pattern identified. All the components in the design pattern class diagram provided in our textbook should be explicitly labelled in your class diagram. (2\*N marks)
2. Applying **N** design patterns in your assignment 2 solution (20 \* N marks)
   * 1. The class diagram before your modification (2 \* N marks)
        + [Design Pattern 1 Before](part%202%20Builder%20before.vsdx)
        + [Design Pattern 2 Before](part%202%20Template%20Meothd%20Before.vsdx)
     2. The locations of code involved (i.e., code reference) in your assignment 2 solution (2 \* N marks)
        + Pattern 1
          1. Client Code: \source\interpreter\_controller.py, method do\_show()
          2. Main Logic: GraphView = \source\view\graph\_view.py
          3. Graph interface: \source\view\i\_graph\_view.py
        + Pattern 2
          1. Client Code: \source\model\interpreter.py, methods serialize\_data\_arr(),save\_file, load\_file()
          2. Main Logic: FileHandler = \source\model\file\_handler\file\_handler.py
          3. FileHandler Interface: \source\model\file\_handler\i\_file\_handler.py
     3. The name of the design pattern applied (2 \* N marks)
        + Design Pattern 1 = Builder
        + Design Pattern 1 = Template Method
     4. The reasons why applying this design pattern is suitable; the reasons MUST be specified for the particular situation you try to apply, i.e., do not just give general reasons why using that design pattern is good. (2 \* N marks)
        + Design Pattern 1:
          1. The builder pattern is used to separate complex objects from the creation process. In this case I separated the various graphs as being the complex objects from the creation process of creating a graph.
        + Design Pattern 2:
          1. I used to the template method
     5. The class diagram after your modification; all the components in the design pattern class diagram provided in our textbook should be explicitly labelled in your class diagram. (2 \* N marks)
        + [Design Pattern 1 After](part%202%20Builder%20after.vsdx)
        + [Design Pattern 2 After](part%202%20Template%20Meothd%20after.vsdx)
     6. Applying the design pattern proposed (10 \* N marks)
        + Refer code