# Data Driven Programming Assessment 2

# Part 1 – Knowledge Questions

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| **1.** What is constructor in Object Oriented Programming (OOP) |
| **Answer:**  A constructor is a special method that is used to initialize objects. It will be automatically called upon creating the object.  The advantage of a constructor, is that it is called when an object of a class is created. |
| **2.** What is Object Aggregation (the “is-a” or “part-of”). You may use an example to explain. |
| **Answer:** |
| **3.** Discuss the 3 basic programming structures, sequential, condition, loop. |
| **Answer:**   |  |  | | --- | --- | | **Sequential** |  | | **Condition** |  | | **Loop** |  | |
| **4.** What is member field and member method in a C# class  Note member field is also referred as instance variable and member method is also refer to as instance method in some other languages |
| **Answer:** |
| **5.** What is static member field and static member method in a C# class  Note static member field is also referred as class variable and static member method is also refer to as class method in some other languages |
| **Answer:** |
| **6.** Discuss the debugging and testing approaches and techniques in software development |
| **Answer:**  *Test plan file name* |
| **7.** Discuss software development life cycle |
| **Answer:** |
| **8.** List common organizational documentation types and their purposes in SDLC |
| **Answer:** |
| **9.** Discuss small-size application development processes |
| **Answer:** |
| **10.** Discuss the processes, tools and techniques for testing small-size applications |
| **Answer:** |
| **11.** Research industry standard auto test frameworks for the following languages |
| **Answer:**   |  |  |  | | --- | --- | --- | | **Language** | **Auto test framework name** | **Official site URL** | | **C#** |  |  | | **Python** |  |  | | **JavaScript** |  |  | |
| **12.** Describe software test concept “IPO” (Inputs, Process and Outputs) |
| **Answer:** |
| **13.** Explain the following data structure - array, tree |
| **Answer:**  Array (or list):  Tree: |
| **14.** Discuss at least 5 organisational guidelines and procedures applicable to software development and testing frameworks |
| **Answer:** |
| **15.** Discuss software defect management process |
| **Answer:** |
| **16.** Discuss relational database management systems, functions and tools.  You may use any database management systems you have used for discussion. For example MS SQL Server, SQLite DB Browser, PHPMyAdmin … |
| **Answer:** |
| **17.** Discuss the concept of application programming interfaces. What is operation system API, libraries API, web API? |
| **Answer:** |
| **18.** Research and discuss at least 3 different data providers and vendors |
| **Answer:** |
| **19.** What are the principles of Structured Query Language (SQL) |
| **Answer:** |
| **20.** What are the organisational guidelines and procedures applicable in assisting the development of data-driven applications? |
| **Answer:** |