ANALYSIS

**1.1** | Description of the problem  
I am doing a Software Design and Development project, integrated with Database Design and Development.

In my Advanced Higher Computing Project, I intend to research, analyse, design, develop, test and evaluate a basic quiz program relating to general Computer Science concepts and paradigms. My project will include categorized questions (hard questions are worth more), a login / account system that utilises a txt file, a list of top-scoring players (sorted using an AH standard algorithm from a .txt file on program launch) and more. When the player gets a question wrong on the quiz, they fail, and their score is recorded. The recorded score is sent to the leaderboard text file. When the player wants to check the leaderboard screen, the scores are then pulled from the text file, sorted and then the screen will display the top 5 results.

My project is broad with regards to end users; the questions are all related to Computer Science, but at a wide range of conceptual complexity. Thus, the program is intended for those with a decent level of Computer Science education or passion.

My project satisfies the requirements of the AH Computing Project because I will include:

* Advanced Higher sorting algorithms
* Object oriented programming in the form of an array of objects (questions)
* A database of questions using Microsoft Access
* A connection to the aforementioned database using the Python module “Pyodbc” to pull each question through.
* A range of SQL queries that will be used to effectively transfer the questions from the database to an array of objects
* A login user interface proceeding a simplistic, true or false based quiz user interface. There will also be a leaderboard user interface. All user interfaces will be designed with Tkinter.

**1.2** | Scope  
I am doing a Software Design and Development project, integrated with Database Design and Development.

**1.3** | Constraints  
I am doing a Software Design and Development project, integrated with Database Design and Development.

**1.4** | Boundaries  
I am doing a Software Design and Development project, integrated with Database Design and Development.

DESIGN

**2.1** | Description of the problem  
I am doing a Software Design and Development project, integrated with Database Design and Development.

IMPLEMENTATION

**3.1** | On-going Test Log

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