A screenshot of a computer

Description automatically generated**Bad Words filtering function**

**A screenshot of a computer

Description automatically generatedQuadratic Equation solver with added function to save the user inputs**

1. **Why do built-in functions exist?**

Built-in functions exist to provide essential, frequently used operations and utilities that user can immediately include in their codes in Python. They improve productivity, and ensure efficiency by offering pre-optimized, reliable solutions for common tasks such as mathematical computation, string manipulations, and file handling.

1. **What are the advantages/disadvantages of placing code inside functions vs. sequential codes?**

|  |  |  |
| --- | --- | --- |
|  | **Advantage** | **Disadvantage** |
| **Function** | * Reduces the time to type the codes for the same task * Makes program easier to write, read and debug * Simplify code structures * Reusability, even other programmers can use your code | * If created in a complex manner, other programmer may find it hard to modify it or even use it * Difficult to integrate with other programming languages |
| **Sequential** | * If one resort to coding simple scripts, this can be easier to understand * Can be executed immedialely * Simplifies data manipulation, since the programmer has the direct access to variables and data | * Not reusable * Harder to manage, especially the database for the codes gets larger |

1. **What is the different between a function and a module?**

Functions are blocks of code that are designed to one specific task by just calling in the code the function dedicated to handle the task. It makes programs easier to write, read and debug.

Modules are functions saved/stored in separate files, making program files simpler and easier to understand by the programmer, and other programmers as well.

1. **Discuss the difference between a module and a package.**

Functions are reusable blocks of code designed to perform a specific task, taking inputs, processing them, and returning a result. Functions encapsulate logic, making it easier to manage and reuse code within a program or script. They operate within a specific scope and are ideal for tasks that must be performed repeatedly.

Modules are files containing Python definitions, such as functions, classes, and variables, that helps organize code into separate namespaces. Modules allow for grouping related functionalities, making it easier to manage larger codebases and reuse code across different programs. Unlike functions, modules operate at a higher level of abstraction, providing a way to structure and modularize code.