**Python Advanced Assignment 6**

Q1. Describe three applications for exception processing.

Ans-) Exception processing is a technique in programming that allows a program to handle unexpected or exceptional situations that may occur during execution. Some applications of exception processing include:

* Error handling: Exceptions can be used to handle errors and unexpected situations that may occur during program execution, such as invalid user input or file I/O errors.
* Robustness: Exception handling can make programs more robust by allowing them to recover from errors and continue executing rather than crashing.
* Debugging: Exceptions can be used as a debugging aid to help identify and diagnose problems in a program.

Q2. What happens if you dont do something extra to treat an exception?

Ans-) If an exception occurs and is not caught or handled in some way, it will propagate up the call stack until it reaches the top level of the program or the interpreter, at which point the program will terminate with an error message. This can result in data loss or other unintended consequences, and is generally not desirable.

Q3. What are your options for recovering from an exception in your script?

Ans-) When an exception occurs in a script, there are several options for recovering from it, including:

* Handling the exception with a try-except block: This allows the program to catch the exception and take appropriate action, such as logging an error message or retrying the operation that caused the exception.
* Raising a new exception: If the program cannot recover from the original exception, it can raise a new exception to signal that an error has occurred and terminate execution.
* Exiting the program: In some cases, it may be appropriate to simply exit the program if an exception occurs, especially if the exception represents a critical error that cannot be recovered from.

Q4. Describe two methods for triggering exceptions in your script.

Ans-) There are several methods for triggering exceptions in a Python script, including:

The raise statement: This can be used to raise a specific exception manually, either with a built-in exception type or a custom exception class.

Assertion statements: These can be used to trigger an AssertionError exception if a condition is not met, which can be useful for debugging and testing.

Q5. Identify two methods for specifying actions to be executed at termination time, regardless of

whether or not an exception exists.

Ans-) Two methods for specifying actions to be executed at termination time, regardless of whether or not an exception exists, are:

Using a try-finally block: This allows the program to specify a block of code that will be executed regardless of whether an exception occurs, such as closing a file or releasing a resource.

Using the atexit module: This module provides a way to register functions that will be called when the program exits, either normally or due to an unhandled exception.