Q1. What is the purpose of the try statement?

Solution - The try statement allows you to define a block of code to be tested for errors while it is being executed. The catch statement allows you to define a block of code to be executed, if an error occurs in the try block.

Q2. What are the two most popular try statement variations?

Solution - In Python, the two most popular variations of the try statement are:

try-except statement: The try-except statement allows you to catch and handle specific exceptions that may occur within a block of code. It provides a way to handle exceptional situations gracefully and continue the execution of the program.

try-finally statement: The try-finally statement is used when you want to ensure that a specific block of code is always executed, regardless of whether an exception occurs or not. It guarantees that the code in the finally block will be executed, even if an exception is raised and not caught.

Q3. What is the purpose of the raise statement?

Solution - The raise keyword is used to raise an exception. You can define what kind of error to raise, and the text to print to the user.

Q4. What does the assert statement do, and what other statement is it like?

Solution - The assert keyword lets you test if a condition in your code returns True, if not, the program will raise an AssertionError. Use raise and a specific exception instead of assert.

Q5. What is the purpose of the with/as argument, and what other statement is it like?

Solution - The with/as statement in Python is used to simplify the management of resources, such as files or network connections, that need to be properly opened and closed. It provides a convenient way to ensure that the resources are automatically released or cleaned up, even if exceptions occur during their usage. The with/as statement is commonly used with objects that have defined context management protocols.

Instead of using the with/as statement, you can manually handle the acquisition and release of resources using a try/finally statement.