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**Description**: This is a code challenge for prospective Test Automation Engineer to work for Global Logic.

**Task Description**:

Given function (Python):

def output(num):

if num > 100 or num < -100 or num == 13:

raise Exception("System error")

print(10/num)

**Tests to be covered:**

1)Create a Test Framework using Python and Robot Framework.

2)Create as many tests as possible to show different test design techniques.

Bonus tasks:

3)Provide test documentation.

**Solution Implementation:**

The Test Automation script development is handled in Robot Framework Automation based on Python Language

This Script Approach includes both Behavior Driven Development and Keyword Driven Development

Execution is done via Command prompt in Robot Framework

Details on Test Folders & Files as follows:

* Resources – This File contains all the necessary resources and application Details
  + **ExcelFunctions.robot** – This File Contains all the excel Functions that are required for the test framework
  + **TestFunctions.robot** - This File Contains all the Keywords that are required for the test framework
  + **Variable.robot** - This File Contains all the Variables that are required for the test framework
* **Steps** – This Folder has all the test steps file with test steps required for test cases
* **TestCode.robot** - This File contains all the steps required for the validation of the python function
* **result** – This Folder has the test result reports and log files for test executions
* **GlobalLogic\_Test\_Values**– This is a excel file for the test scenarios executions
* Columns – Number & Output
* Numbers – This Column will have the values to be tested
* Output – This Column will have the output of the Test

**How to Execute:**

1. Install Python from Python.org with path added to system environment variable
2. Install the below robot framework libraries
   1. Robotframework
   2. Robotframework-excellibrary

How to Install:

* Open Cmd in admin mode
* Use command – “pip install <<libraryname>>”
* Eg., pip install robotframework

1. Feed the Excel path in the “Environment Variables” with Variable as “InputExcelPath” and value as “ExcelPath”
2. Save the test scripts folder “Global Logic to Local”
3. Open cmd and Navigate to Global Logic Folder
4. Type “robot ./Tests/TestCode.robot” and press Enter

**Test Result Validation:**

1. The test results with Value or System Error Status will be updated for every value after the execution
2. Final test results can be seen in the Log.html, report.html and Output.xml file
3. Overall test results with all the statistics of the whole executions can be seen in report.html
4. Individual step level test results can be seen in log file

**Solution Proposals**:

1. Data Driven Approach - Input and Output can be done via external file (eg. Excel) operations – if its required for larger implementations
2. Execution can be done by one robust Driver script written in Robot to execute multiple test suites in sequential order(Gui testing, API testing via postman/newman)
3. I can also develop the same test scenarios automation test in core Python via Pytest using selenium