Test Plan

Testing process:
In order to test our methods, we will pulling test variables from a template file and outputting the results. For our first test, we will test the functionality of the Sugarlabs calculator's division function by passing varying types of input across five stages. The stages will test positive integers, negative integers, division by zero, overflows, and improper inputs. The values will be compared to the predetermined oracle values for validity.

Requirements traceability:
We will be testing to ensure that we cover a wide range of testable operations by selecting a diverse range of parameters.This range will include positive, negative, overflow, and varying invalid operations.

Tested items:
We will be testing the div() method within the calculate-activity class. This function accepts two values, x and y, and divides x by y.
Test Cases:
Positive Integer / negative Integer = negative integer
5 / -1 = -5
Negative Integer / Negative Integer = positive integer
-6 / -3 = 2
Integer / zero = error
5 / 0 = divide by zero error
Integer / overflow = error
1 / 99999999999999999999 = overflow error
Integer / string = error
10 / squids = type error

Testing schedule:
Testing will be done according to the schedule outlined within the deliverables. At each stage of testing, all previous tests will be performed to ensure the correct operation of each method. If testing should be come strenuous on any testing systems, then testing will be performed during off hours to lighten the load on the machines.

Test recording procedures:
We will be recording the results of our testing by outputting the data to a file.The files will append the latest output with timestamps for visibility. We can also use print statements for troubleshooting and clarity.

Hardware and software requirements:
The hardware requirements are tested within a web implementation of Sugarizer. This can be done via Google Cloud. The methods functionality can also be tested within a virtual machine operating the Sugar operating system.

Constraints:
There are currently no constraints to this testing process.

System Tests:
The system as a whole should test the functionality of the division function in conjunction with other selected methods, utilizing a wide range of tests.