CS 1632 - DELIVERABLE 3

Daniel Justice
https://github.com/danieljustice/Quality-Assurance-D3

Summary

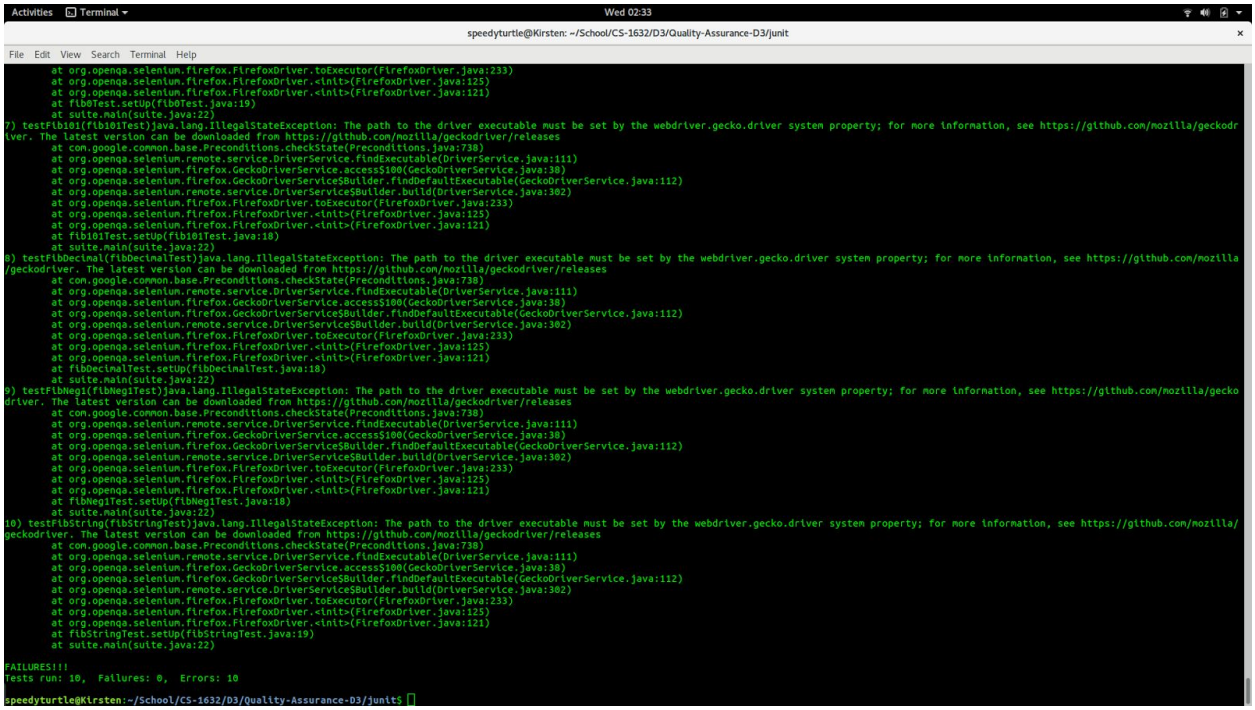
The website testing went pretty well per the requirements given. Requirements 3, 4 and 5 gave the most clear cut equivalence classes and were easy to properly test. It took 20 tests to test edge cases and normal cases for these 3 requirements leaving only 10 test cases left for the remaining 5 requirements per project guidelines. I chose to go a little over the guidelines in favor of testing more accurately and created a total of 35 tests.

One of the largest problems I faced was properly testing Requirement 1 because there seemed to be no clear equivalence classes. There just seemed to be “do these links exist or not?” and to properly test if the links always existed it would take over 30 tests alone. So I made the decision to use only 6 tests and try to hit the requirement in a broad sense, not a complete sense.

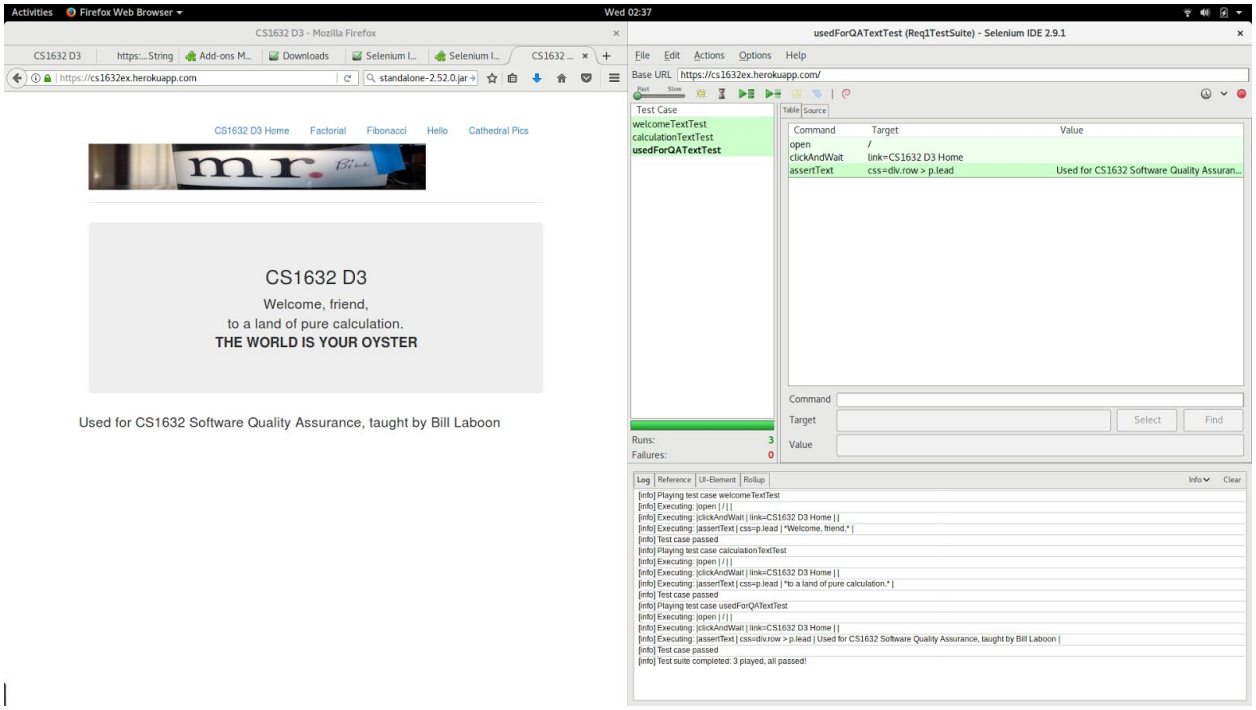
Tests failed for Requirements 4 and 5. For Requirement 4 tests failed because of an off by 1 error where fib(2) was giving fib(3), fib(3) was giving fib(4) and so on. There is also and error where valid values are returning 1 instead of a proper fibonacci value.

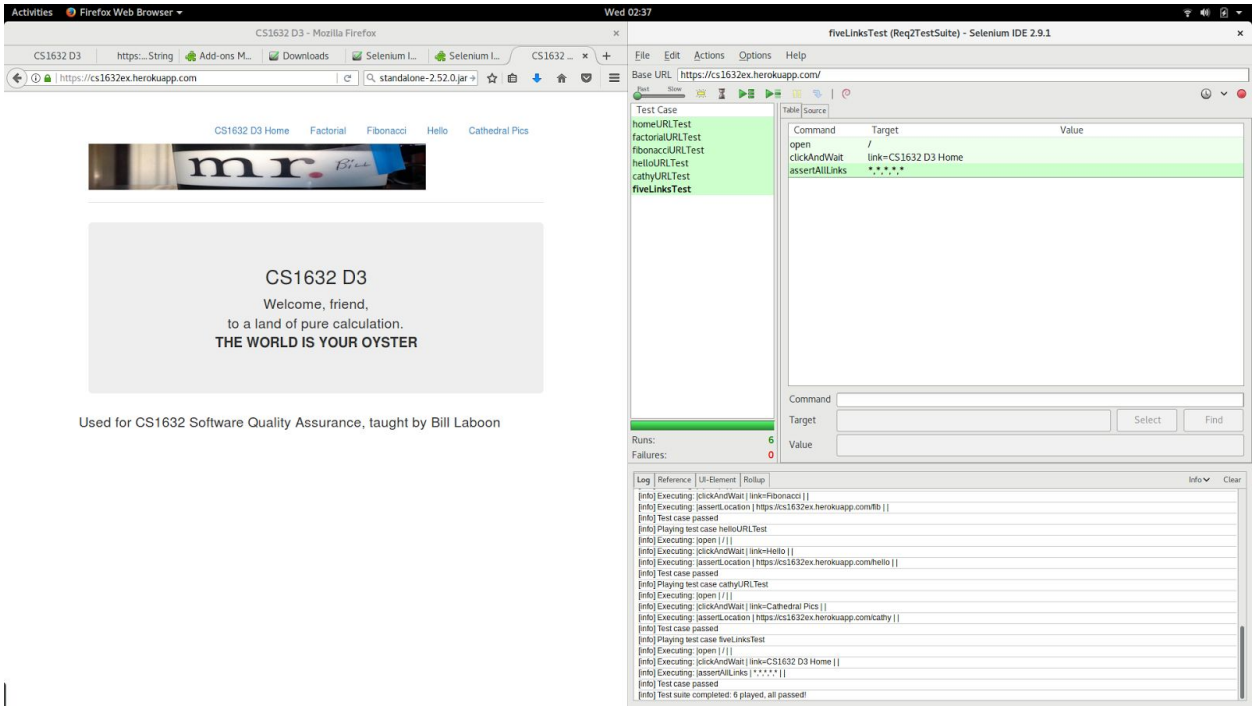
For Requirement 5 both fibonacci and factorial would give a server error when strings or decimals were submitted but the requirements stated that a 1 should be returned instead.

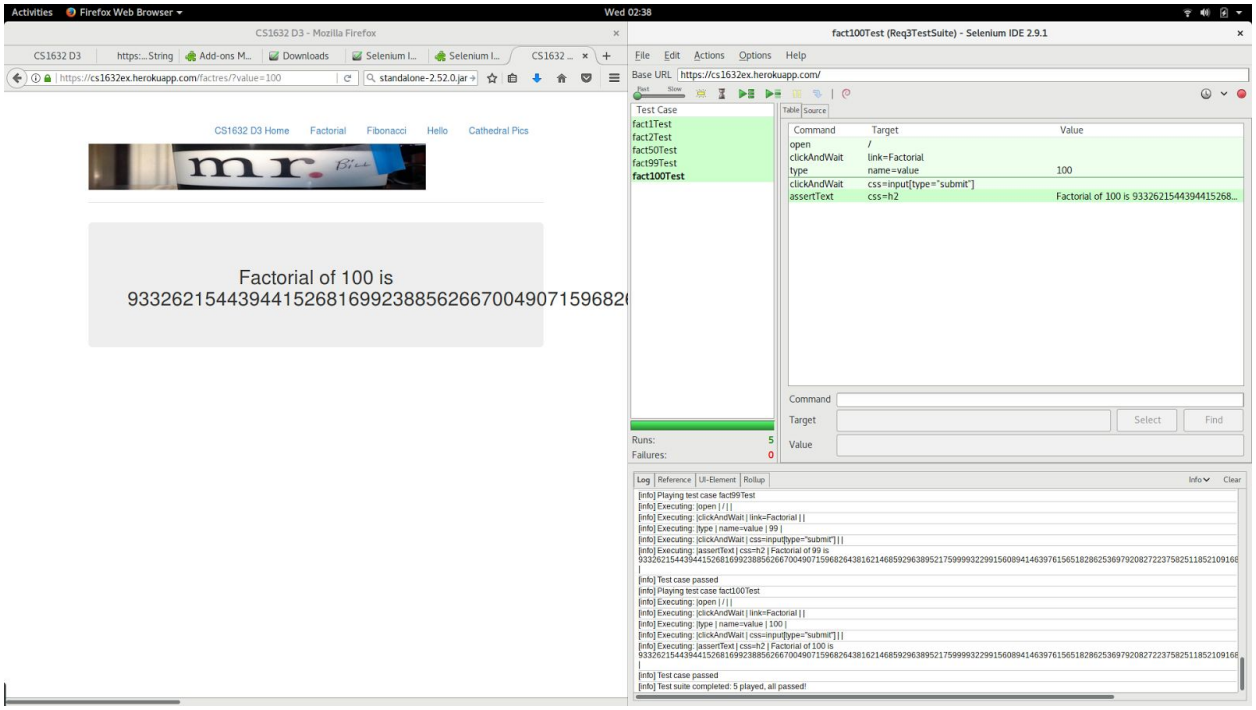
And then there was selenium. While the IDE was kind of bulky it was usable and once a flow was established it was pretty good, if not a little buggy sometimes. However, exporting to junit tests simply does not work. We are given version 2.52.0 jars but my firefox extension is 2.9.1.1 signed and the latest version of Selenium is 3.3.1. I cannot find how to install the 2.52 IDE and am not sure if it even exists because the Selenium IDE and Selenium seem to follow different versioning systems. I attempted to use 3.3.1 jars instead of 2.52.0 and while that showed an improvement, every test ran with an error that has something to do with geckos.

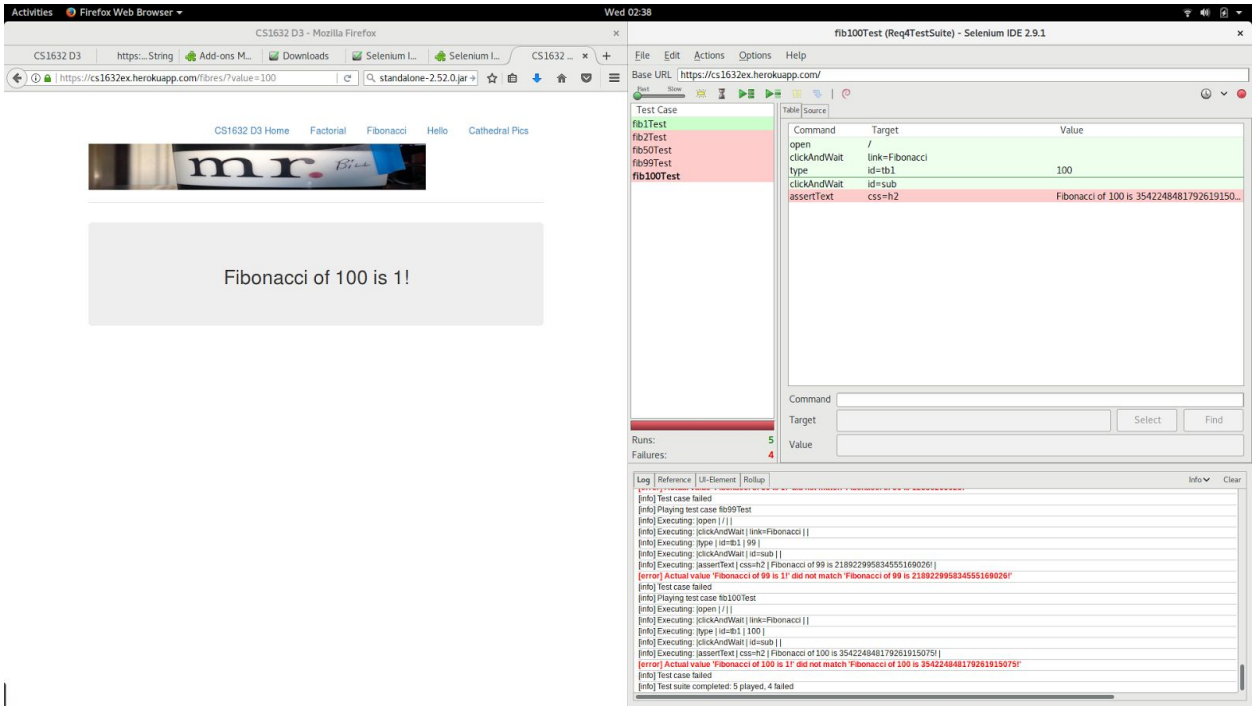


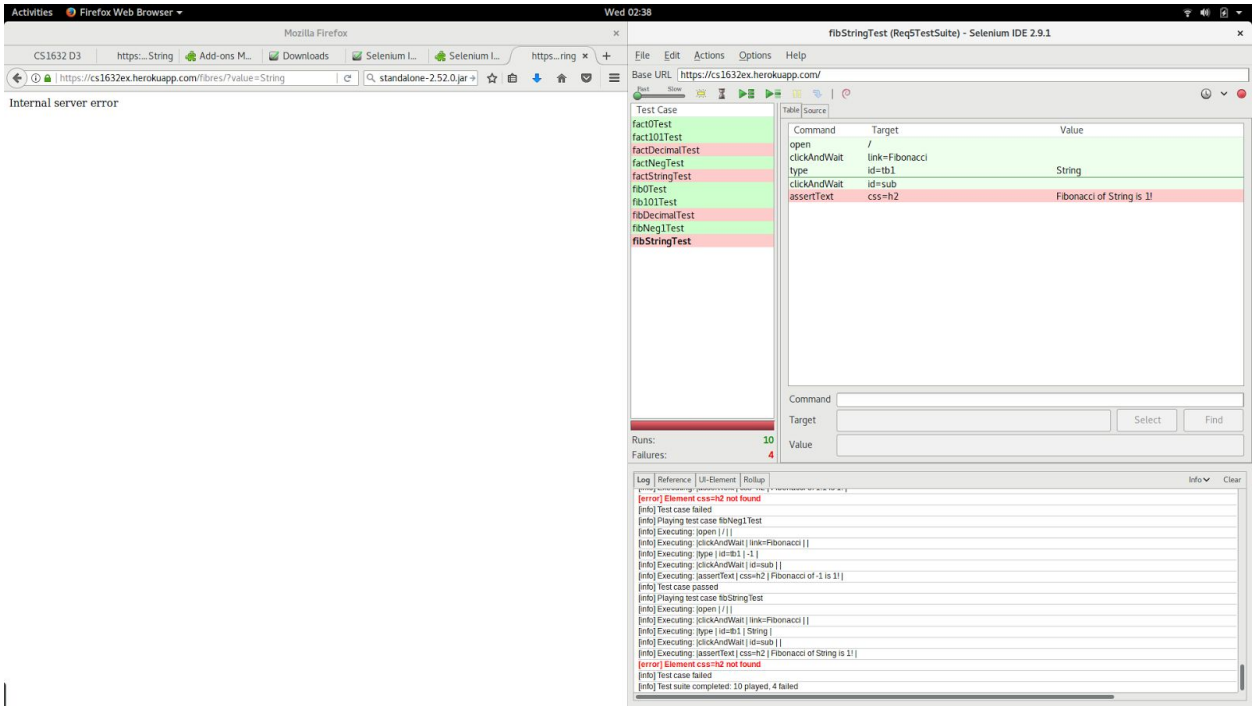
On the other hand, the IDE tested just fine, as each of these 8 suites will show.

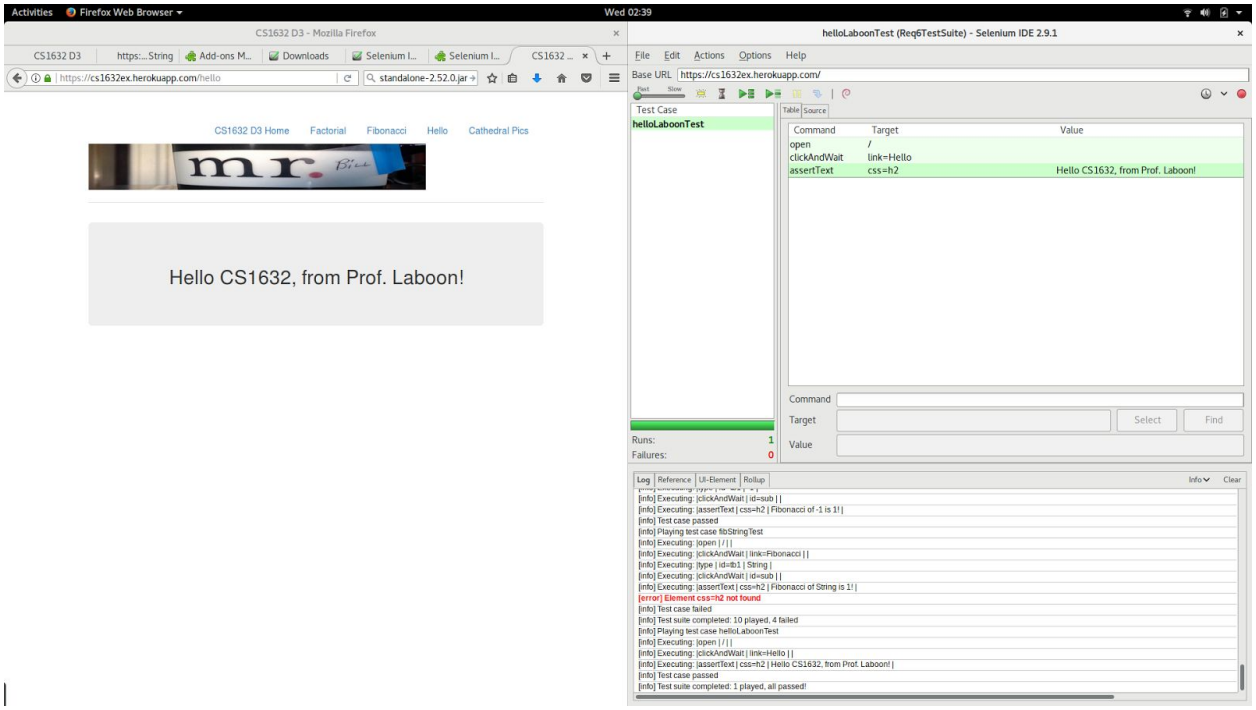

Activities
Firefox Web Browser
Wed 02:37
CS1632 D3 - Mozilla Firefox
CS1632 D3 Home
Factorial
Fibonacci
Hello
Cathedral Pics
CS1632 D3
Welcome, friend,
to a land of pure calculation.
THE WORLD IS YOUR OYSTER
Used for CS1632 Software Quality Assurance, taught by Bill Laboon
usedForQATextTest (Req1TestSuite) - Selenium IDE 2.9.1
File Edit Actions Options Help
Base URL https://cs1632ex.herokuapp.com/
Test Case
welcomeTextTest
calculationTextTest
usedForQATextTest
Command Target Value
open /
clickAndWait link=CS1632 D3 Home
assertText css=div.row > p.lead Used for CS1632 Software Quality Assuran...
Runs: 3
Failures: 0
[info] Playing test case welcomeTextTest
[info] Executing: |open | / | |
[info] Executing: |clickAndWait | link=CS1632 D3 Home | |
[info] Executing: |assertText | css=p.lead | *Welcome, friend,* |
[info] Test case passed
[info] Playing test case calculationTextTest
[info] Executing: |open | / | |
[info] Executing: |clickAndWait | link=CS1632 D3 Home | |
[info] Executing: |assertText | css=p.lead | *to a land of pure calculation.* |
[info] Test case passed
[info] Playing test case usedForQATextTest
[info] Executing: |open | / | |
[info] Executing: |clickAndWait | link=CS1632 D3 Home | |
[info] Executing: |assertText | css=div.row > p.lead | Used for CS1632 Software Quality Assurance, taught by Bill Laboon |
[info] Test case passed
[info] Test suite completed: 3 played, all passed!

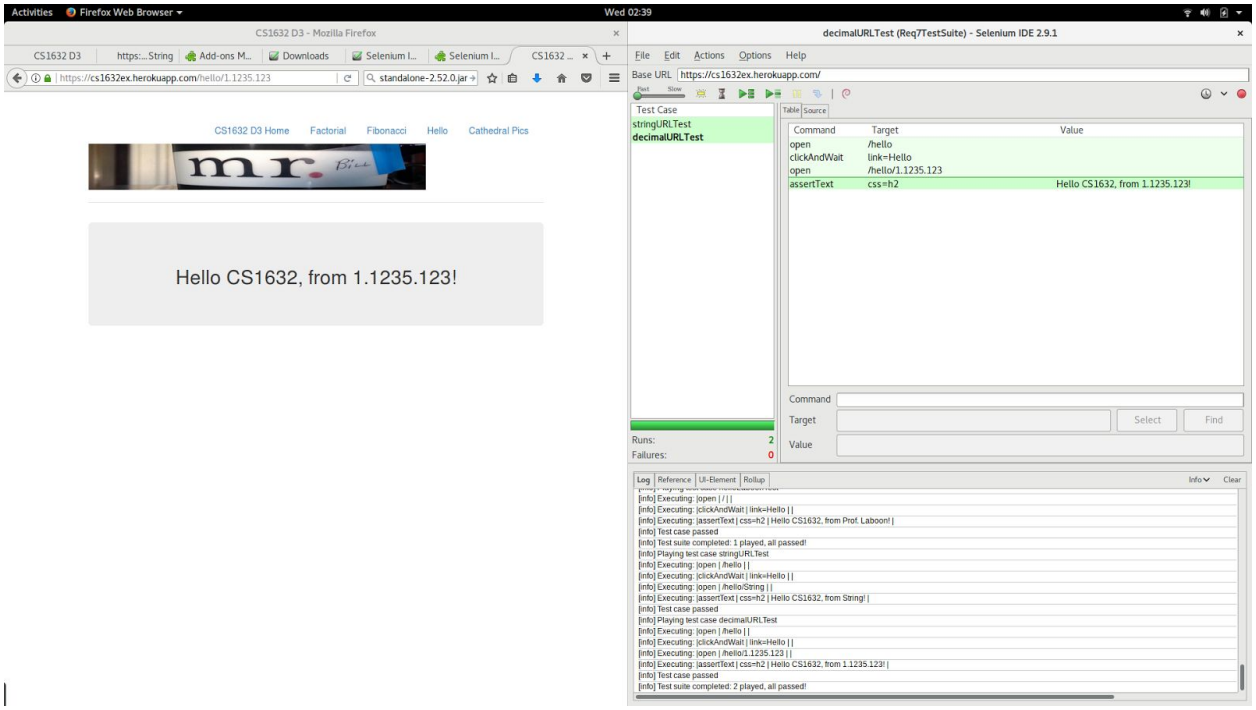

Activities
Firefox Web Browser
Wed 02:37
CS1632 D3 - Mozilla Firefox
CS1632 D3 Home
Factorial
Fibonacci
Hello
Cathedral Pics
CS1632 D3
Welcome, friend,
to a land of pure calculation.
THE WORLD IS YOUR OYSTER
Used for CS1632 Software Quality Assurance, taught by Bill Laboon
fiveLinksTest (Req2TestSuite) - Selenium IDE 2.9.1
File Edit Actions Options Help
Base URL https://cs1632ex.herokuapp.com/
Test Case
homeURLTest
factorialURLTest
fibonacciURLTest
helloURLTest
cathyURLTest
fiveLinksTest
Command Target Value
open /
clickAndWait link=CS1632 D3 Home
assertAllLinks *,*,*,*,*
Runs: 6
Failures: 0
[info] Executing: |clickAndWait | link=Fibonacci | |
[info] Executing: |assertLocation | https://cs1632ex.herokuapp.com/fib | |
[info] Test case passed
[info] Playing test case helloURLTest
[info] Executing: |open | / | |
[info] Executing: |clickAndWait | link=Hello | |
[info] Executing: |assertLocation | https://cs1632ex.herokuapp.com/hello | |
[info] Test case passed
[info] Playing test case cathyURLTest
[info] Executing: |open | / | |
[info] Executing: |clickAndWait | link=Cathedral Pics | |
[info] Executing: |assertLocation | https://cs1632ex.herokuapp.com/cathy | |
[info] Test case passed
[info] Playing test case fiveLinksTest
[info] Executing: |open | / | |
[info] Executing: |clickAndWait | link=CS1632 D3 Home | |
[info] Executing: |assertAllLinks | *,*,*,*,* | |
[info] Test case passed
[info] Test suite completed: 6 played, all passed!

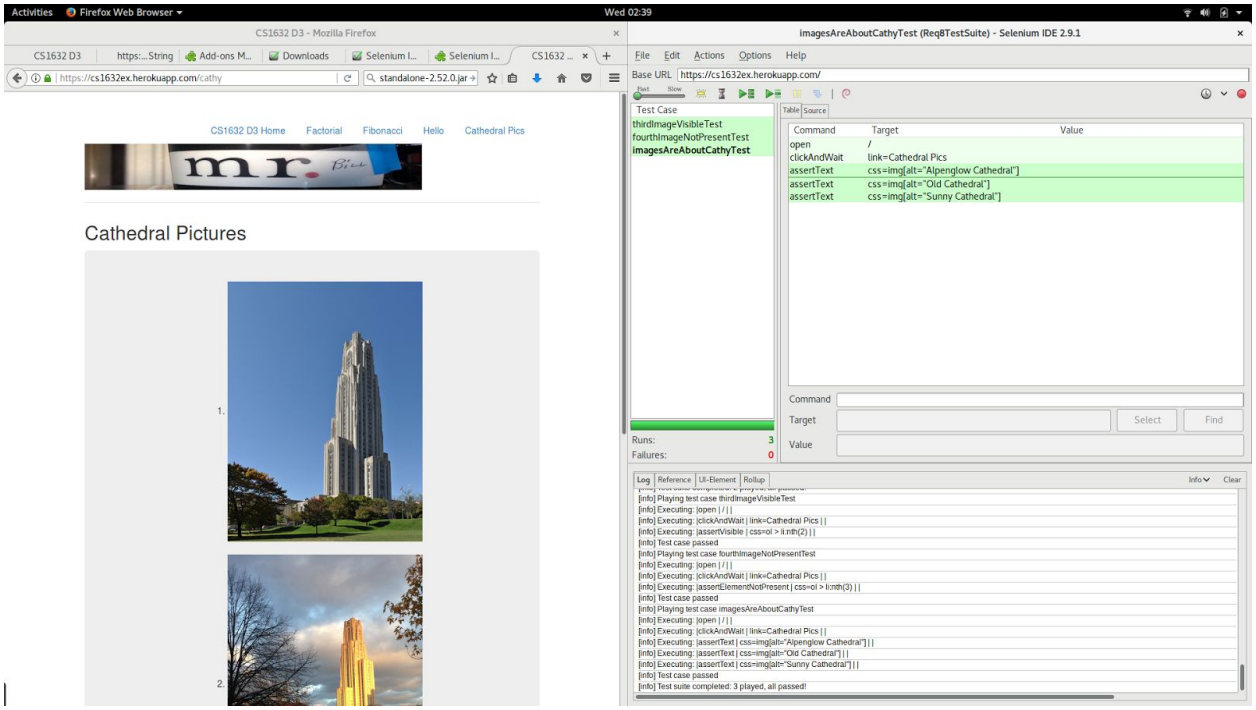

Activities
Firefox Web Browser
Wed 02:38
CS1632 D3 - Mozilla Firefox
https://cs1632ex.herokuapp.com/factres/?value=100
CS1632 D3 Home
Factorial
Fibonacci
Hello
Cathedral Pics
Factorial of 100 is
933262154439441526816992388562667004907159682
fact100Test (Req3TestSuite) - Selenium IDE 2.9.1
File
Edit
Actions
Options
Help
Base URL
https://cs1632ex.herokuapp.com/
Test Case
fact1Test
fact2Test
fact50Test
fact99Test
fact100Test
Command
Target
Value
open
/
clickAndWait
link=Factorial
type
name=value
100
clickAndWait
css=input[type="submit"]
assertText
css=h2
Factorial of 100 is 933262154439441526...
Runs: 5
Failures: 0
[info] Test suite completed: 5 played, all passed!


Activities
Firefox Web Browser
Wed 02:38
CS1632 D3 - Mozilla Firefox
https://cs1632ex.herokuapp.com/fibres/?value=100
CS1632 D3 Home
Factorial
Fibonacci
Hello
Cathedral Pics
Fibonacci of 100 is 1!
fib100Test (Req4TestSuite) - Selenium IDE 2.9.1
File
Edit
Actions
Options
Help
Base URL
https://cs1632ex.herokuapp.com/
Test Case
fib1Test
fib2Test
fib50Test
fib99Test
fib100Test
Command
Target
Value
open
/
clickAndWait
link=Fibonacci
type
id=tb1
100
clickAndWait
id=sub
assertText
css=h2
Fibonacci of 100 is 3542248481792619150...
Runs: 5
Failures: 4
[error] Actual value 'Fibonacci of 99 is 1!' did not match 'Fibonacci of 99 is 218922995834555169026!'
[error] Actual value 'Fibonacci of 100 is 1!' did not match 'Fibonacci of 100 is 3542248481792619150751'
[info] Test suite completed: 5 played, 4 failed


Activities
Firefox Web Browser
Wed 02:38
Mozilla Firefox
https://cs1632ex.herokuapp.com/fibres/?value=String
Internal server error
fibStringTest (Req5TestSuite) - Selenium IDE 2.9.1
File Edit Actions Options Help
Base URL https://cs1632ex.herokuapp.com/
Test Case
fact0Test
fact101Test
factDecimalTest
factNegTest
factStringTest
fib0Test
fib101Test
fibDecimalTest
fibNeg1Test
fibStringTest
Command Target Value
open /
clickAndWait link=Fibonacci
type id=tb1 String
clickAndWait id=sub
assertText css=h2 Fibonacci of String is 1!
Runs: 10
Failures: 4
[error] Element css=h2 not found
[info] Test case failed
[info] Playing test case fibNeg1Test
[info] Test case passed
[info] Playing test case fibStringTest
[info] Test suite completed: 10 played, 4 failed


Activities
Firefox Web Browser
Wed 02:39
CS1632 D3 - Mozilla Firefox
https://cs1632ex.herokuapp.com/hello
CS1632 D3 Home
Factorial
Fibonacci
Hello
Cathedral Pics
Hello CS1632, from Prof. Laboon!
helloLaboonTest (Req6TestSuite) - Selenium IDE 2.9.1
File Edit Actions Options Help
Base URL https://cs1632ex.herokuapp.com/
Test Case
helloLaboonTest
Command Target Value
open /
clickAndWait link=Hello
assertText css=h2 Hello CS1632, from Prof. Laboon!
Runs: 1
Failures: 0
[info] Test suite completed: 1 played, all passed!





Exporting to Junit is also completely tedious and ridiculous. The test cases export with a useless package which makes them impossible to run, they do not extend the classes they are supposed to, and sometimes they mess up the class name. I'll export them all to a file called JunitCode. Originally I was gonna have a test suite that ran test suites of

each requirement, but since these junit tests don't work at all there is no sense in that. I also will not make the changes that would be needed for a test suite to run them.

I have also come to realize that it is virtually impossible to comment similarly to how RedditTest.java is commented. I regret using the IDE and will most likely refuse to ever use it again.

Defects

IDENTIFIER: DEFECT-1
SUMMARY: Fibonacci gives incorrect value when the argument 2 is passed in.
DESCRIPTION: When 2 is passed into the Fibonacci input box and then the submit button is pressed the resultant string is "Fibonacci of 2 is 2!" when it is expected to be "Fibonacci of 2 is 1!"
REPRODUCTION STEPS:
1) Click on the Fibonacci Link
2) Enter "2" into the input box
3) Press the submit button
EXPECTED BEHAVIOR: The string "Fibonacci of 2 is 1!" will appear
OBSERVED BEHAVIOR: The string "Fibonacci of 2 is 2!" will appear

IDENTIFIER: DEFECT-2
SUMMARY: Fibonacci gives incorrect value when the argument 50 is passed in.
DESCRIPTION: When 50 is passed into the Fibonacci input box and then the submit button is pressed the resultant string is "Fibonacci of 50 is 1!" when it is expected to be "Fibonacci of 50 is 354224848179261915075!"
REPRODUCTION STEPS:
1) Click on the Fibonacci Link
2) Enter "50" into the input box
3) Press the submit button
EXPECTED BEHAVIOR: The string "Fibonacci of 50 is 354224848179261915075!" will appear
OBSERVED BEHAVIOR: The string "Fibonacci of 50 is 1!" will appear

IDENTIFIER: DEFECT-3
SUMMARY: Fibonacci gives incorrect value when the argument 99 is passed in.
DESCRIPTION: When 99 is passed into the Fibonacci input box and then the submit button is pressed the resultant string is “Fibonacci of 99 is 1!” when it is expected to be “Fibonacci of 99 is 218922995834555169026!”
REPRODUCTION STEPS:
1) Click on the Fibonacci Link
2) Enter “99” into the input box
3) Press the submit button
EXPECTED BEHAVIOR: The string “Fibonacci of 99 is 218922995834555169026!” will appear
OBSERVED BEHAVIOR: The string “Fibonacci of 99 is 1!” will appear

IDENTIFIER: DEFECT-4
SUMMARY: Fibonacci gives incorrect value when the argument 100 is passed in.
DESCRIPTION: When 100 is passed into the Fibonacci input box and then the submit button is pressed the resultant string is “Fibonacci of 100 is 1!” when it is expected to be “Fibonacci of 100 is 354224848179261915075!”
REPRODUCTION STEPS:
1) Click on the Fibonacci Link
2) Enter “100” into the input box
3) Press the submit button
EXPECTED BEHAVIOR: The string “Fibonacci of 100 is 354224848179261915075!” will appear
OBSERVED BEHAVIOR: The string “Fibonacci of 100 is 1!” will appear

IDENTIFIER: DEFECT-5
SUMMARY: Factorial displays a server error if a decimal argument is passed in.
DESCRIPTION: When 1.1 is passed into the Factorial input box and then the submit button is pressed the resultant string is “Internal server error” when it is expected to be “Factorial of 1.1 is 1!”
REPRODUCTION STEPS:
1) Click on the Factorial Link
2) Enter “1.1” into the input box
3) Press the submit button
EXPECTED BEHAVIOR: The string “Factorial of 1.1 is 1!” will appear
OBSERVED BEHAVIOR: The string “Internal server error” will appear