While hoisting the function need to check conlicts with vairables as well

**Our Analysis Limitation:**

Gives false positives in two cases:

1. When the a parent is only just calling the child function (case we already discussed)

2. When the child is calling some other function in its current scope, so when we hoist it then it is unable to call that function

3. In case of recursive functions, we only check if the child has the same name as the parent. But this would fail in the case when there is actually a function defined with the same as the parent (JS allows this)

<https://www.sola.tu-darmstadt.de/index.php?id=12576>

<https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Operators/function>

**Underscore**

<https://github.com/jashkenas/underscore>

<http://underscorejs.org/#findKey>

**Jalangi**

<https://www.npmjs.com/package/jalangi2>

<http://manu.sridharan.net/files/JalangiTutorial.pdf>

<http://people.eecs.berkeley.edu/~gongliang13/jalangi_ff/demo_integrated.htm>

<file:///E:/TUD/PTA/Project/jalangi2/docs/MyAnalysis.html>

<https://github.com/Samsung/jalangi2/tree/master/scripts/node-jalangi>

**Jalangi Commands**

* On the fly instrumentation

node ../src/js/commands/jalangi.js --inlineIID --inlineSource --analysis analysis.js mainExample.js

node ../src/js/commands/jalangi.js --inlineIID --inlineSource --analysis analysis.js q/q.js

**To run the lodash Test suit**

1. Install python
2. Go to lodash directory and install “npm install”
3. In case of python version installed is less than 3

python -m SimpleHTTPServer

If python version installed is 3 or above then

python3 -m http.server 8000

1. Then in chrome hit “localhost:8000” and navigate to the test directory

* offline-instrumentation while being in the root directory of jalangi2

node ../src/js/commands/esnstrument\_cli.js --inlineIID --inlineSource mainExample.js

node ../src/js/commands/direct.js --analysis analysis2.js mainExample\_jalangi\_.js

**PTA Meeting 2 Queries:**

1. I used the offline instrumentation on my mainExample.js file which refers to my test cases. But the offline instrumentation command does not give me the same result as the online-instrumentation command?
2. I have cloned the underscore repository, now are we suppose to run our analysis on any give file in this repository or are we to use the given test cases? how are we to run our analysis on the test suit?
3. How should we handle if there are nested functions within an IndirectEval?
4. **Do we have to check hoistability by checking if the parent has a function with the same name?**
5. Project presentation? should we make ppts?
6. Project report? how many pages it should be of? what format should we follow for it?
7. If we are not able to run our analysis on all 3 sample repositories then what would happen?

**PTA Meeting 3 Queries:**

1. What to submit? Only analysis.js or the whole jalangi project
2. We have created our own examples for all types of function i.e. recursive, function expression, eval etc. Should we submit those along with our analysis as well?
3. Are we to submit the hoisted versions of the lib files e.g. lodash.js too?

**Evaluation**

Number of times Spec was executed 10

|  |  |  |  |
| --- | --- | --- | --- |
| Library | Original Execution Time | Hoisted Execution Time | Number of hoisted functions |
| Q | (3.832+3.819+3.86+3.848+3.836+3.836+3.858+3.814) =3.8378 | (3.862+3.847+3.853+3.865+3.825+3.809+3.826+3.834)/5 = 3.840  (3.897+3.889+3.869+3.867+3.846+3.831+3.751+3.81)  = 3.845 |  |
| lodash | 9985+9582+9780+9881+9690+9706+9759+9753+9747+9793  Avg = 9767.6 | 9626+9612+9610+9706+9877+9624+9761+9705+9724+9803  Avg = 9704.8 | 7 |