

ScopingExperiment

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1 Scoping Experiment

This experiment is designed to show a peculiarity in Julia'd scoping. Julia uses a layered scoping where the scope of the inner function has access to the values of the outer function. For example:

```
In [1]: x=5; y=7; #Defined globally
        function scopeTest(z)
            x += z #Changes global value
            y = Vector{Float64}(1) #Declares a variable, local scope
            y[1] = 2
            return x + y + z
        end
```

```
Out[1]: scopeTest (generic function with 1 method)
```

However, what is happening here, and why?

```
In [37]: addprocs(1)
         function f1()
             @parallel for i = 1:100
                 x = 10
                 if x < 100
                     x = x + 1
                 end
             end
             x = x + 100 + 10
             return x
         end
         f1()
```

```
WARNING: Method definition f1() in module Main at In[36]:3 overwritten at In[37]:3.
```

```
LoadError: UndefVarError: x not defined
while loading In[37], in expression starting on line 12
```

```
in f1() at ./In[37]:3  
  
in execute_request(::ZMQ.Socket, ::IJulia.Msg) at /home/crackauc/.julia/v0.5/IJulia/src/eventloop.jl:15  
  
in eventloop(::ZMQ.Socket) at /home/crackauc/.julia/v0.5/IJulia/src/eventloop.jl:15  
  
in (::IJulia.##9#15)() at ./task.jl:360
```

```
In [38]: function f2()  
        @parallel for i = 1:100  
            x = 10  
            if x < 100  
                x = x + 1  
            end  
        end  
        return x  
    end  
    f2()
```

WARNING: Method definition f2() in module Main at In[35]:2 overwritten at In[38]:2.

```
Out [38]: 5
```