
Subject: Re: lambda functions in IDL-python bridge
Posted by [Helder Marchetto](#) on Wed, 09 Sep 2015 07:27:37 GMT
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On Tuesday, September 8, 2015 at 5:34:11 PM UTC+2, Chris Torrence wrote:

> On Friday, September 4, 2015 at 7:55:30 AM UTC-6, Helder wrote:

>> Hi,

>> I've got the next problem, using a lambda function in the python sorted function.

>>

>> Consider this easy python example:

>>

>> d0 = {'sorted': 1, 'unsorted': 0}

>> d1 = {'sorted': 5, 'unsorted': 1}

>> d2 = {'sorted': 3, 'unsorted': 2}

>> d3 = {'sorted': 7, 'unsorted': 3}

>> d4 = {'sorted': 4, 'unsorted': 4}

>> l = [d0,d1,d2,d3,d4]

>> sorted(l, key = lambda x:x['sorted'])

>>

>> The result would be:

>> [{'sorted': 1, 'unsorted': 0},

>> {'sorted': 3, 'unsorted': 2},

>> {'sorted': 4, 'unsorted': 4},

>> {'sorted': 5, 'unsorted': 1},

>> {'sorted': 7, 'unsorted': 3}]

>>

>> Now if I would want to do this in IDL, things would get difficult. Suppose I get a dictionary (or a simple object with a property...) as a result of an operation and I want to sort this result according to a specific property... how do I do that in IDL?

>>

>> The syntax:

>> matches = Python.sorted(matches, key = lambda(x: x.distance))

>>

>> will give me a compilation error.

>>

>> Thanks,

>> Helder

>>

>> PS: I found a different solution to this problem using IDL. I import all properties in an idl variable, sort the variable and apply this to the list. A python solution would be though nice, just to know how to deal with lambda functions.

>

> Hi Helder,

>

> Unfortunately, IDL can't translate its Lambda functions into Python lambda functions. If you wanted to have Python do this, you could transfer the variable over to Python, and then execute a Python command. Like this:

>

```

> IDL> d0 = hash('sorted', 1, 'unsorted', -1)
> IDL> d1 = hash('sorted', 5, 'unsorted', 1)
> IDL> d2 = hash('sorted', 3, 'unsorted', 2)
> IDL> d3 = hash('sorted', 7, 'unsorted', 3)
> IDL> d4 = hash('sorted', 4, 'unsorted', 4)
> IDL> lst = list(d0,d1,d2,d3,d4)
> IDL> Python.l = lst
> IDL> >>>result = sorted(l, key = lambda x:x['sorted'])
> IDL> result = Python.result
> IDL> print, result, /implied
>
> Now, if you wanted to do this purely in IDL, you could use List::Sort with a Lambda compare
function, and the new .Compare method, which exists on IDL variables:
>
> d0 = {sorted: 1, unsorted: 0}
> d1 = {sorted: 5, unsorted: 1}
> d2 = {sorted: 3, unsorted: 2}
> d3 = {sorted: 7, unsorted: 3}
> d4 = {sorted: 4, unsorted: 4}
> lst = List(d0,d1,d2,d3,d4)
> result = lst.Sort(COMPARE=Lambda(a,b:(a.sorted).Compare(b.sorted)))
> print, result, /implied
>
> Here's an example of how the .Compare method works:
> IDL> print, (1).compare(2)
>      -1
> IDL> print, (1).compare(1)
>       0
> IDL> print, (1).compare(0)
>       1
>
> Cheers,
> Chris

```

Hi Chris,
 thanks for the info. I'm fighting to understand how to interface python and IDL. Your examples are very nice and hope that more of such will come (that's a suggestion...).

Your IDL solution looks very exotic (=cool).
 Cheers,
 Helder
