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Subject: Saving for loop values into arrays without know the final size of array  
Posted by [sylvestergreene51](#) on Tue, 29 Jul 2014 19:24:15 GMT

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I am dealing with a large data set and a for-loop with some if statements involved. thus I do not know what the final size of the for-loop will be and cannot declare the array dimensions beforehand which allows you to save your for-loop answers into an array. Does anyone know of a suggestion about how to work around this?

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Subject: Re: Saving for loop values into arrays without know the final size of array  
Posted by [Michael Galloy](#) on Tue, 29 Jul 2014 19:35:08 GMT

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On 7/29/14, 1:24 PM, sylvestergreene51@gmail.com wrote:

> I am dealing with a large data set and a for-loop with some if  
> statements involved. thus I do not know what the final size of the  
> for-loop will be and cannot declare the array dimensions beforehand  
> which allows you to save your for-loop answers into an array. Does  
> anyone know of a suggestion about how to work around this?  
>

Easiest solution is to use the list class. There are other solutions if you have an older version of IDL.

Mike

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Michael Galloy

[www.michaelgalloy.com](http://www.michaelgalloy.com)

Modern IDL: A Guide to IDL Programming (<http://modernidl.idldev.com>)

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Subject: Re: Saving for loop values into arrays without know the final size of array  
Posted by [Russell Ryan](#) on Tue, 29 Jul 2014 19:58:00 GMT

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On Tuesday, July 29, 2014 3:24:15 PM UTC-4, sylveste...@gmail.com wrote:

> I am dealing with a large data set and a for-loop with some if statements involved. thus I do not know what the final size of the for-loop will be and cannot declare the array dimensions beforehand which allows you to save your for-loop answers into an array. Does anyone know of a suggestion about how to work around this?

Mike is right, if you have list, you should use list. However, this is will \*NOT\* work on IDL <7 and might be a problem for you (say if you distribute the code). If you want to use the "old school" way, then it's something like this.

You'll need to swap the for-loop for a while-loop and grow your arrays by concatenation. Suppose your array is called "arr" and you want it to be a floating point, then your code will look something like this:

```
arr=[0.0]
i=0L ;init the counter
okay =1b ;start the loop
while okay do begin
  if i eq 0 then begin
    arr(0)=FIRST_ELEMENT_OF_ARRAY
  endif else begin
    arr=[arr,ALL_OTHER_ELEMENTS_OF_ARRAY]
  endelse
  okay = SOME_TESTING_LOGIC_THAT_ONLY_YOU_KNOW
endwhile
```

This will work. You'll need to fill in the values of the array and stop condition, but we'd need to know more about your program to help. This is the simplest case and will work, however this can be made to be better in a great number of ways. First thing to do is change the line:

```
arr=[arr,XXXXX]
```

to something like

```
arr=[temporary(arr),XXXX]
```

this will save you memory and execute a tick faster (or always seems to).

Also, this is concatenation, which is horrifically slow in IDL, especially as the arrays get large. So, you're better off to concatenate as few times as possible. Instead of going through the relevant stuff, I'll point you to The Masters:

[http://www.idlcoyote.com/code\\_tips/nullarray.html](http://www.idlcoyote.com/code_tips/nullarray.html)

Here, David Fanning details a discussion from JD Smith.

good luck...

Russell

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Subject: Re: Saving for loop values into arrays without know the final size of array  
Posted by [gpeterso@ucsc.edu](mailto:gpeterso@ucsc.edu) on Tue, 29 Jul 2014 20:56:27 GMT  
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Thanks for the suggestions! I am currently using version 6.2

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Subject: Re: Saving for loop values into arrays without know the final size of array  
Posted by [Michael Galloy](#) on Tue, 29 Jul 2014 21:31:28 GMT

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On 7/29/14, 2:56 PM, gpeterso%ucsc.edu@gtempaccount.com wrote:

> Thanks for the suggestions! I am currently using version 6.2

>

I have an implementation of an "array list" (MGcoArrayList class) which preallocates a fixed size array, then doubles the size every time you over run it's current size. It handles remembering how long it is and supports toArray, deletion, count, etc. It's in the collection/ directory of mglib, which you can find at:

[github.com/mgalloy/mglib](https://github.com/mgalloy/mglib)

Mike

--

Michael Galloy

[www.michaelgalloy.com](http://www.michaelgalloy.com)

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Subject: Re: Saving for loop values into arrays without know the final size of array  
Posted by [sylvestergreene51](#) on Wed, 30 Jul 2014 00:17:37 GMT

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Thanks! Is the full name if the program mgcoarraylist\_ut\_define.pro? And I just use it the same way as the list() function?

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Subject: Re: Saving for loop values into arrays without know the final size of array  
Posted by [Michael Galloy](#) on Wed, 30 Jul 2014 05:44:17 GMT

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<sylvestergreene51@gmail.com> wrote:

> Thanks! Is the full name if the program mgcoarraylist\_ut\_define.pro?

> And I just use it the same way as the list() function?

That's it's unit test; mgcoarraylist\_\_define.pro is in src/collection/.

-Mike

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