
Subject: concatenating strings

Posted by [Seb](#) on Tue, 27 Aug 2013 22:56:05 GMT

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Hi,

I just began learning IDL, and am not understanding why the following is not producing the string (20111021):

```
---<-----cut here-----start----->---
IDL> caldat, julday(1, 294, 2011), mon, day, year
% Compiled module: CALDAT.
IDL> print, year, mon, day
      2011      10      21
IDL> print, string(year) + string(mon) + string(day)
      2011      10      21
---<-----cut here-----end----->---
```

I thought that the string() function would coerce the numbers to a string, and then the concatenation operator ('+') would join them together, but this is not happening. What am I missing?

Cheers,

--
Seb

Subject: Re: concatenating strings

Posted by [Michael Galloy](#) on Tue, 27 Aug 2013 23:11:48 GMT

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On 8/27/13 4:56 PM, Seb wrote:

```
> Hi,
>
> I just began learning IDL, and am not understanding why the following is
> not producing the string (20111021):
>
> ---<-----cut here-----start----->---
> IDL> caldat, julday(1, 294, 2011), mon, day, year
> % Compiled module: CALDAT.
> IDL> print, year, mon, day
>      2011      10      21
> IDL> print, string(year) + string(mon) + string(day)
>      2011      10      21
> ---<-----cut here-----end----->---
>
> I thought that the string() function would coerce the numbers to a
```

> string, and then the concatenation operator ('+') would join them
> together, but this is not happening. What am I missing?
>
> Cheers,
>

It is happening, but the individual strings that are being created are being created with the default formatting (with leading spaces). Try:

```
IDL> print, strtrim(year, 2) + strtrim(mon, 2) + strtrim(day, 2)
20111021
```

Mike

--

Michael Galloy

www.michaelgalloy.com

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

Research Mathematician

Tech-X Corporation

Subject: Re: concatenating strings

Posted by [Seb](#) on Tue, 27 Aug 2013 23:31:46 GMT

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On Tue, 27 Aug 2013 17:11:48 -0600,
Michael Galloy <mgalloy@gmail.com> wrote:

> On 8/27/13 4:56 PM, Seb wrote:
>> Hi,

>> I just began learning IDL, and am not understanding why the following
>> is not producing the string (20111021):

```
>> ---<-----cut
>> here-----start----->---
IDL> caldat, julday(1, 294, 2011), mon, day, year
>> % Compiled module: CALDAT.
IDL> print, year, mon, day
>> 2011 10 21
IDL> print, string(year) + string(mon) + string(day)
>> 2011 10 21 ---<-----cut
>> here-----end----->---
```

>> I thought that the string() function would coerce the numbers to a
>> string, and then the concatenation operator ('+') would join them
>> together, but this is not happening. What am I missing?

>> Cheers,

> It is happening, but the individual strings that are being created are
> being created with the default formatting (with leading spaces). Try:

```
IDL> print, strtrim(year, 2) + strtrim(mon, 2) + strtrim(day, 2)
> 20111021
```

Thank you. So the leading spaces are created by the 'caldat' function when it outputs the variables, right?

--

Seb

Subject: Re: concatenating strings
Posted by [Phillip Bitzer](#) on Tue, 27 Aug 2013 23:32:41 GMT
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Just to add a little hint, try using help:

```
IDL>help, STRING(year)
<Expression>  STRING  = '    2011'
```

Now, you can clearly see the blanks.

And yes, "+" is doing concatenation:

```
IDL> help, string(year) + string(mon) + string(day)
<Expression>  STRING  = '    2011    10    21'
```

A piece of advice, since you're starting out: be careful with "print". Sometimes, you think something has gone terribly wrong, when in fact everything's OK:

```
IDL> a = 14.12345
IDL> print, a
    14.1235
```

Did IDL truncate my number? No, it's just a limitation of the default print format:

```
IDL> print, a, FORMAT='(F10.6)'
    14.123450
```

Subject: Re: concatenating strings
Posted by [Seb](#) on Wed, 28 Aug 2013 13:29:38 GMT
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On Tue, 27 Aug 2013 16:32:41 -0700 (PDT),
Phillip Bitzer <bitzerp@uah.edu> wrote:

> Just to add a little hint, try using help:

IDL> help, STRING(year)

> <Expression> STRING = ' 2011'

> Now, you can clearly see the blanks.

> And yes, "+" is doing concatenation:

IDL> help, string(year) + string(mon) + string(day)

> <Expression> STRING = ' 2011 10 21'

> A piece of advice, since you're starting out: be careful with

> "print". Sometimes, you think something has gone terribly wrong, when

> in fact everything's OK:

IDL> a = 14.12345 print, a

> 14.1235

> Did IDL truncate my number? No, it's just a limitation of the default

> print format:

IDL> print, a, FORMAT='(F10.6)'

> 14.123450

Thanks both of you for these pointers. I'm learning via a combination
of reading documentation/books and reviewing/editing code I've
inherited.

Cheers,

--

Seb

Subject: Re: concatenating strings

Posted by [kagoldberg](#) on Wed, 28 Aug 2013 21:58:37 GMT

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> So the leading spaces are created by the 'caldat' function when it outputs the variables, right?
This is not correct. The mon, day, year values are numbers, not strings, so they have no inherent
spaces. The leading spaces are inserted when you convert them to strings without specifying a
formatting for string() to use.

You could choose to format them like this

string(year, FORMAT='(i4.4)') + string(mon, FORMAT='(i2.2)') + string(day, FORMAT='(i2.2)') or
string(year, mon, day, FORMAT='(i4.4,i2.2,i2.2)')

the code "i2" means you want an integer that has 2 digits (including possible leading space), and

the ".2" means to pad single digit results with leading zeros to make the number always have 2 digits. Similar for the "i4.4"
