

---

**Subject:** Bug in IDL or, may be in my head ?  
**Posted by** [franciscoaiglesias](#) **on Fri, 23 May 2014 08:01:30 GMT**  
[View Forum Message](#) <> [Reply to Message](#)

---

Hi all,

Any clue what's going on here ?

```
a = randomn(seed, 248, 256, 9972) * 100. + 4.e3
```

```
print, total(a) ; gives 1.42030e+12  
print, total(a, /double) ;gives 2.5324144e+12  
print, total(total(total(a, 1),1));gives 2.53250e+12
```

Thanks !

---

---

---

**Subject:** Re: Bug in IDL or, may be in my head ?  
**Posted by** [Michael Galloy](#) **on Fri, 23 May 2014 22:39:44 GMT**  
[View Forum Message](#) <> [Reply to Message](#)

---

On 5/23/14, 2:01 AM, franciscoaiglesias@gmail.com wrote:

```
> Hi all,  
>  
> Any clue what's going on here ?  
>  
> a = randomn(seed, 248, 256, 9972) * 100. + 4.e3  
>  
> print, total(a) ; gives 1.42030e+12  
> print, total(a, /double) ;gives 2.5324144e+12  
> print, total(total(total(a, 1),1));gives 2.53250e+12  
>  
> Thanks !  
>
```

Check out Kahan summation:

[http://en.wikipedia.org/wiki/Kahan\\_summation\\_algorithm](http://en.wikipedia.org/wiki/Kahan_summation_algorithm)

I have an implementation in mglib:

```
IDL> print, mg_total(a)  
% Loaded DLM: MG_ANALYSIS.  
2.53241e+12
```

Get mglib at:

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

-Mike

---