
Subject: binomial function change

Posted by [air_jlin](#) on Tue, 24 Sep 2002 04:15:42 GMT

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hi all,

maybe this was documented in the "what's new" back when idl 5.4 shipped, but since i couldn't find the change mentioned in places i have access to (archives of this group, rsi tech tips, etc.), when i was trying to debug a program i was writing in idl 5.3 that used `binomial()`, i thought i'd mention it here to save anyone else from wondering "what's going on?".

in idl 5.5, the following call returns the following result:

```
IDL> print,binomial(4,30,0.05)
```

```
% Compiled module: BINOMIAL.
```

```
0.0607712
```

```
% Program caused arithmetic error: Floating underflow
```

this result is correct.

in idl 5.3, this is what you get:

```
IDL> print,binomial(4,30,0.05)
```

```
% Compiled module: BINOMIAL.
```

```
% Compiled module: GAUSS_PDF.
```

```
0.0181180
```

the difference appears to be that for values of $n > 25$, the 5.3 routine defaults to calculating the cumulative binomial distribution using a gaussian approximation.

best,

-Johnny

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