```
    NewDataFolder/O/S mypack
    Variable/G nvalSav= nval
    String/G svalSav= sval
    SetDataFolder dfSav
End
```

StudentA

StudentA(*t, DegFree*)

Note: This function is deprecated. New code should use the more accurate **StatsStudentCDF**.

The StudentA function returns the area from *-t* to *t* under the Student's T distribution having *DegFree* degrees of freedom. That is, it returns the probability that a random sample from Student's T is between *-t* and *t*.

Note that this is the *bi-tail* result. That is, it gives the area from *-t* to *t*, rather than the cumulative area from -∞ to *t*. It is this latter number that is commonly tabulated- StudentA returns the probability 1-α where the area from -∞ to t is the probability 1-α/2.

StudentA tests whether a normally-distributed statistic is significantly different from a certain value. You could use it to test whether an intercept from a line fit is significantly different from zero:

```
Make/O/N=20 Data=0.5*x+2+gnoise(1)      // line with Gaussian noise
Display Data
CurveFit line Data /D
Print "Prob = ", StudentA(W_coef[0]/W_sigma[0], V_npnts-2)
```

Because the noise is random, the results will differ slightly each time this is tried. When we did it, the result was:

```
Prob = 0.999898
```

which indicates that the intercept of the line fit was different from zero with 99.99 per cent probability.

See Also

StatsStudentCDF, **StatsStudentPDF**, **StatsInvStudentCDF**

StudentT

StudentT(*Prob, DegFree*)

Note: This function is deprecated. New code should use the more accurate **StatsInvStudentCDF**.

The StudentT function returns the t value corresponding to an area *Prob* under the Student's T distribution from *-t* to *t* for *DegFree* degrees of freedom.

Note that this is a *bi-tail* result, which is what is usually desired. Tabulated values of the Student's T distribution are commonly the one-sided result.

StudentT calculates confidence intervals from standard deviations for normally-distributed statistics. For instance, you can use it to calculate a confidence interval for the coefficients from a curve fit:

```
Make/O/N=20 Data=0.5*x+2+gnoise(1)      // line with Gaussian noise
Display Data
CurveFit line Data /D
print "intercept = ", W_coef[0], "±", W_sigma[0]*StudentT(0.95, V_npnts-2)
print "slope = ", W_coef[1], "±", W_sigma[1]*StudentT(0.95, V_npnts-2)
```

See Also

StatsStudentCDF, **StatsStudentPDF**, **StatsInvStudentCDF**

Submenu

Submenu *menuNameStr*

The Submenu keyword introduces a submenu definition. It is used inside a Menu definition. See Chapter IV-5, **User-Defined Menus** for further information.