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Submitter :
Language : Fortran

Library: MATHLIB
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Arc Tangent Function

Function subprogram `ATG` calculates, for real arguments x_1 and x_2, $(x_1, x_2) \neq (0., 0.)$, an angle α such that

$$\alpha = \arctan(x_1/x_2) \quad \text{and} \quad 0 \leq \alpha < 2\pi .$$

Note that using the Fortran intrinsic function `ATAN2` instead of `ATG` would result in $-\pi < \alpha \leq \pi$.

Structure:

`FUNCTION` subprogram
User Entry Names: `ATG`

Usage:

In any arithmetic expression,

```
ATG(X1,X2)
```

has the value of α (in radians). `ATG`, `X1` and `X2` are of type `REAL`.

Notes:

This function subprogram is equivalent to the statement function

```
ATG(X1,X2)=ATAN2(X1,X2)+(PI-SIGN(PI,X1))
```

where `PI` $= \pi$.

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