# Tech Info Library

## A/UX: Problem With atan2 Function (9/94)

```
Revised:        9/20/94
Security:       Everyone
```

A/UX: Problem With atan2 Function (9/94)

=======================================================================

Article Created: 17 May 1988
Article Reviewed/Updated: 20 September 1994

TOPIC ------------------------------------------------------------

The math library function atan2 gives an incorrect answer for the arguments
(-1,0).  A/UX returns 0; it should return 3.141593 (pi).

This problem has been fixed in A/UX 2.0.1 and 3.0.

DISCUSSION --------------------------------------------------------

Here's a sample program:

```
#include<math.h>
main()        {
printf("atan2( 0, 1) = %9.6f\n", atan2( 0., 1.));
printf("atan2( 1, 0) = %9.6f\n", atan2( 1., 0.));
printf("atan2( 0,-1) = %9.6f\n", atan2( 0.,-1.));
printf("atan2(-1, 0) = %9.6f\n", atan2(-1., 0.));
}
```

This program returns:

```
atan2( 0, 1) =  0.000000
atan2( 1, 0) =  1.570796
atan2( 0,-1) =  0.000000
atan2(-1, 0) = -1.570796
```

The result SHOULD be:

```
atan2( 0, 1) =  0.000000
atan2( 1, 0) =  1.570796
atan2( 0,-1) =  3.141593
atan2(-1, 0) = -1.570796
```

This anomaly affects the conversion of rectangular-to-polar coordinates, a common use of the atan2 function.


Article Change History:
20 Sep 1994 - Reviewed.
27 Aug 1992 - UPDATED to include A/UX 3.0 Information.

Support Information Services

Tech Info Library Article Number:2912