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

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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.

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