C library function - atan()

Description

The C library function **double atan(double x)** returns the arc tangent of **x** in radians.

Declaration

Following is the declaration for atan() function.

```
double atan(double x)
```

Parameters

- **x** − This is the floating point value.

Return Value

This function returns the principal arc tangent of x, in the interval [-pi/2,+pi/2] radians.

Example

The following example shows the usage of atan() function.

Live Demo

```
#include <stdio.h>
#include <math.h>

#define PI 3.14159265

int main () {
   double x, ret, val;
   x = 1.0;
   val = 180.0 / PI;

   ret = atan (x) * val;
   printf("The arc tangent of %lf is %lf degrees", x, ret);

   return(0);
}
```

Let us compile and run the above program that will produce the following result −

```
The arc tangent of 1.000000 is 45.000000 degrees
```