C library function - ldexp()

Description

The C library function **double ldexp(double x, int exponent)** returns **x** multiplied by 2 raised to the power of **exponent**.

Declaration

Following is the declaration for ldexp() function.

```
double ldexp(double x, int exponent)
```

Parameters

- **x** − This is the floating point value representing the significand.
- **exponent** − This is the value of the exponent.

Return Value

This function returns x * 2 ^{exp}

Example

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

Live Demo

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

int main () {
   double x, ret;
   int n;

   x = 0.65;
   n = 3;
   ret = ldexp(x ,n);
   printf("%f * 2^%d = %f\n", x, n, ret);

   return(0);
}
```

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

```
0.650000 * 2^3 = 5.200000
```