Aim:

Write a \mathbf{C} program to calculate \mathbf{x}^n using functions.

Sample Input and Output:

```
Enter value of x : 1.5
Enter value of : 2
1.500000^2 = 2.250000
```

Note-1: Let us consider x as real number and n as integer number.

Note-2: Write the function **power()** in FunctionsExample5a.c.

Source Code:

FunctionsExample5.c

```
#include <stdio.h>
#include "FunctionsExample5a.c"

void main() {
    float result, x;
    int n;
    printf("Enter value of x : ");
    scanf("%f", &x);
    printf("Enter value of : ");
    scanf("%d", &n);
    result = power(x, n);
    printf("%f^%d = %f\n", x, n, result);
}
```

FunctionsExample5a.c

```
float power(float x,int y);
float power(float x,int y)
{
   int i;
   float result=x;
   for(i=1;i<y;i++)
   result=result*x;
   return result;
}</pre>
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Enter value of x : 1.5
Enter value of : 2
$1.500000^2 = 2.250000$

2022-2026-CSE-B

Test	Case - 2
User Output	
Enter value of x : 3.57	
Enter value of : 3	
3.570000^3 = 45.499290	

Test Case - 3	
User Output	
Enter value of x : 25.75	
Enter value of : 3	
25.750000^3 = 17073.859375	