Aim:

Write a program to find the power of a given number using recursion process.

Exp. Name: Write a C Program to find the Power of a given number using

At the time of execution, the program should print the message on the console as:

```
Enter a number :
```

Recursion

For example, if the user gives the **input** as:

```
Enter a number : 5
```

Next, the program should print the message on the console as:

```
Enter power :
```

For example, if the user gives the **input** as:

```
Enter power : 4
```

then the program should print the result as:

```
5 to the power of 4 is : 625
```

Note: Write the recursive function **power()** in Program905a.c.

Source Code:

```
Program905.c
```

```
#include <stdio.h>
#include "Program905a.c"

void main() {
   int m, n;
   printf("Enter a number : ");
   scanf("%d", &m);
   printf("Enter power : ");
   scanf("%d", &n);
   printf("%d to the power of %d is : %d\n", m, n, power(m, n));
}
```

Program905a.c

```
int power(int x,int y);
int power(int x,int y)
{
   if(y==0)
   return 1;
   else
   return(x*power(x,y-1));
}
```

Test Case - 1
User Output
Enter a number : 3
Enter power : 4
3 to the power of 4 is : 81

Test Case - 2
User Output
Enter a number : 4
Enter power : 3
4 to the power of 3 is : 64