Question:

Paul is provided with a number “x” whose scope will remain throughout the program. Using the concept of recursion, help Paul to write a “C program” for finding the value of (x)n where n should be less than or equal to 5

Answer:

#include <stdio.h>

int power(int x, int n);

int main() {

int x, n, result;

printf("Enter x and n (<= 5):\n");

scanf("%d %d", &x, &n);

result = power(x, n);

printf("%d^%d = %d\n", x, n, result);

return 0;

}

int power(int x, int n) {

if (n == 0) {

return 1;

} else if (n == 1) {

return x;

} else if (n <= 5) {

return x \* power(x, n-1);

} else {

return -1;

}

}