**2.Armstrong number using recursion**

#include <stdio.h>

#include <math.h>

int is\_armstrong(int num, int original\_num) {

if (num == 0) {

return original\_num == 0; // Check if all digits have been processed

}

int last\_digit = num % 10;

int remaining\_num = num / 10;

// Calculate power of number of digits efficiently using log base 10

int num\_digits = floor(log10(original\_num) + 1);

int raised\_digit = pow(last\_digit, num\_digits);

return is\_armstrong(remaining\_num, original\_num) && (raised\_digit == last\_digit);

}

int main() {

int num;

printf("Enter a number: ");

scanf("%d", &num);

if (is\_armstrong(num, num)) {

printf("%d is an Armstrong number.\n", num);

} else {

printf("%d is not an Armstrong number.\n", num);

}

return 0;

}