1.

#include <iostream>

#define PI 3.141592653589793238462643383279

#define MAX\_N 4457

using namespace std;

float f(float x, int n, float term, float sum = 0, int i = 0) {

if (i == n) {

return sum;

}

return f(x, n, term \* x \* x \* (-1) / (2 \* i + 2) / (2 \* i + 3), sum + term, i + 1);

}

int main() {

float x = PI;

int n = MAX\_N;

cout << f(x, n, x);

}

2.

int f(int n) {

if (n == 1) {

return 1;

}

else if (n == 2) {

return 2;

}

n -= 2;

int a[] = { 1, 2 };

for (; n > 0; a[1] += a[0], a[0] = a[1] - a[0], n--);

return a[1];

}