//Ding Zhu Lab1 2/7/17

#include <iostream>

#include <stdio.h>

#include <time.h>

#include <iomanip>

using namespace std;

long long FiboR(int n) // array of size n

{

if (n == 0 || n == 1)

return (n);

else return (FiboR(n - 1) + FiboR(n - 2));

}

long long FiboNR(int n) // array of size n

{

long long \*F = new long long[n];

F[0] = 0; F[1] = 1;

for (int i = 2; i <= n; i++)

{

F[i] = F[i - 1] + F[i - 2];

}

return (F[n]);

}

int main() {

bool repeat = true;

char rep = 'y';

printf("%s%\*s%\*s%\*s%\*s\n", "Integer", 10, "FiboR", 10, "FiboNR", 20, "FiboR Value",20, "FiboNR Value");

//long long a = 12586269025;

//printf("%lld", a);

for (int i = 0; i <= 50; i += 5) {

long long y;

long long z;

time\_t start1, start2, end1, end2;

time(&start1);

y = FiboR(i);

time(&end1);

time(&start2);

z = FiboNR(i);

time(&end2);

printf("%7d%10d%10d%20lld%20lld\n", i, (int) difftime(end1,start1),(int) difftime(end2, start2), y , z);

}

system("pause");

}

