```
#include <stdio.h>

int f(int);

int F(int);

void main(void)
{
  int n;
  scanf("%i", &n);
  printf("Fibonacci number%3i = %9i

", n, f(n));
  printf("Fibonacci number%3i = %9i

", n, F(n));
}

int f(int n)
{
  if (n <= 1) return n;
  return f(n - 1) + f(n - 2);
}

int F(int n)
{
  int return_val;
  printf("Entering F, Input: %3i\n", n);
  if (n == 0) return_val = 0;
  else if (n == 1) return_val = 1;
  else {
    return_val =  F(n - 1);
    return_val += F(n - 2);
  }
  printf("  Return from F, Value: %4i\n", return_val);
  return return_val;
}
```

```
#include <stdio.h>

int f(int);

int F(int);

void levout(int);

int calls = 0, Calls = 0;

void main(void)
{
  int n;
  scanf("%i", &n);
  printf("Fibonacci number%3i = %9i\n", n, f(n));
  F(n);
  printf("Total calls: %9i\n", calls);
}

int f(int n)
{
  calls++;
  if (n <= 1) return n;
  return f(n - 1) + f(n - 2);
}

int F(int n)
{
  static int level = 0;
  int value1, value2;

  Calls++;
  level++;
  levout(level);
  printf("Input: %3i\n", n);
  if (n == 0) {
    levout(level);
    printf("Return: 0\n");
    level--;
    return 0;
  }
}
```

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```
if (n == 1) {
    levout(level); printf("Returned: 1\n");
    level--;
    return 1;
}
value1 = F(n - 1);
value2 = F(n - 2);
levout(level); printf("Returned: %9i\n", value1 + value2);
level--;
return value1 + value2;

void levout(int level) {
    for( ; level > 1; level--) printf("|\t" );
    printf("+\t") ;
}

F#  5 = 5, Calls: 15, Clock time: no delay
F# 10 = 55, Calls: 177, Clock time: no delay
F# 15 = 610, Calls: 1973, Clock time: no delay
F# 20 = 6765, Calls: 21891, Clock time: no delay
F# 25 = 75025, Calls: 242785, Clock time: no delay
F# 30 = 832040, Calls: 2692537, Clock time: 2 sec
F# 35 = 9227465, Calls: 29860703, Clock time: 16 sec
F# 40 = 10364285, Calls: 331160281, Clock time: 200 sec