

Fibonacci Examples

Introduction

This is an example of how the Fibonacci function looks using various calling conventions. Shown here is the C calling convention (created by Metrowerks CodeWarrior), the Pascal calling convention (also by Metrowerks CodeWarrior), and a custom calling convention (hand coded).

Notes:

- the Pascal convention assembly was obtained by placing the keyword “`pascal`” before the prototype for “`Fib`”.
- I turned on “68020 codegen” for the Pascal convention so that `RTD` could be used.
- The syntax for the automatically generated assembly is CodeWarrior’s. The syntax for the hand-generated code is Cöder’s (Sorry about that, but the conversion would have been error-prone and the difference is small).
- Much of this code was generated using methods that are disallowed for QuickSort. You are free to use this handout as a reference when coding QuickSort, but again, you should be writing your own code.
- `int` is 32 bits in this code

Source Code

```
int Fib (int n);

int main(void)
{
    return Fib (5);
}

int Fib (int n)
{
    if (n <= 2) {
        return 1;
    }

    return Fib (n-1) + Fib (n-2);
}
```