CSE 220 - C Programming
Fall 2015

Recursive Functions (cont.)
Example 1: Fibonacci Numbers

- Write a recursive function that computes the Fibonacci sequence:

\[
\begin{array}{cccccccc}
1 & 1 & 2 & 3 & 5 & 8 & 13 & 21 & 34 & 55 \\
\end{array}
\]
Example 1: Fibonacci Numbers

- Write a recursive function that computes the Fibonacci sequence:

\[ f(n) = \begin{cases} 
  0 & n = 0 \\ 
  1 & n = 1 \\ 
  f(n-1) + f(n-2) & n > 1 
\end{cases} \]

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Example 1: Fibonacci Numbers

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\[
f(n) = \begin{cases} 
0 & \text{if } n = 0 \\
1 & \text{if } n = 1 \\
f(n - 1) + f(n - 2) & \text{if } n > 1 
\end{cases}
\]
Example 1: Fibonacci Numbers

The solution code is posted on the course page
Exercise: Decimal to Binary

Write a recursive method `printBinary` that accepts an integer and prints that number's representation in binary (base 2).

Example: `printBinary(7)` prints 111  
Example: `printBinary(12)` prints 1100  
Example: `printBinary(42)` prints 101010

Write the method recursively and without using any loops.
Exercise: Decimal to Binary

The solution code is posted on the course page