

In this assignment you will implement seven recursive functions, and print a table of their values. Here are the functions.

1. $f(0) = 0, f(x) = f(\lfloor x/2 \rfloor) + 1$
2. $f(0) = 0, f(x) = f(\lfloor x/2 \rfloor) + x$
3. $f(0) = 0, f(x) = 2f(\lfloor x/2 \rfloor) + 1$
4. $f(0) = 0, f(x) = 2f(\lfloor x/2 \rfloor) + x$
5. $f(0) = 0, f(x) = f(x-1) + 1$
6. $f(0) = 0, f(x) = f(x-1) + x$
7. $f(0) = 0, f(x) = 2f(x-1) + 1$

For each function evaluate it for all integer values from 0 through 20, and print the results in a table. Line 1 has the value of each function at zero, Line 2 has the value of each function at one, and so forth, until you have printed 21 lines. Set the width of the output field to 8, so the numbers line up. This will be enough to give you a space between each number, since the largest number will have 7 digits.