**Worksheet 13**
**Mathematical Recursion**

1. The Fibonacci numbers $f_0$, $f_1$, $f_2$, ... are defined by the equations $f(0) = f(1) = 1$ and $f(n + 1) = f(n)^2 + f(n-1)^3$ for $n = 1, 2, 3, ...$ Identify $f(2)$, $f(3)$ and $f(4)$.

2. Find the first 5 terms for the given sequences.
   (a) $a_n = \frac{n}{2}, n = 1, 2, 3, ...$
   (b) $b_n = \frac{1+(-1)^n}{2}, n \geq 1$