CS1231 Review 9

1. A Function $f : A \to B$ is an assignment of exactly one element of B to each element of A.

   If $b \in B$ is assigned to $a \in A$, then we write $f(a) = b$. b is called the image of a, and a is called a preimage of b.

   A is called domain. B is called codomain. $f(A) = \{f(a) \mid a \in A\}$ is called range/image.

2. We define two functions from $\mathbb{R}$ to $\mathbb{R}$: $f(x) = x+1$, $g(x) = x^2$. $(f+g)(x) = x+1+x^2$, $(fg)(x) = f(x)g(x) = (x+1)x^2 = x^3+x^2$

   multiplication