1. Continuity

- Suppose f is a real function on a subset of the real numbers and c be a point in the domain of f. Then, f is continuous at c, if $\lim_{x \to c} f(x) = f(c)$

  More elaborately, we can say that f is continuous at c, if

  $$\lim_{x \to c^-} f(x) = \lim_{x \to c^+} f(x) = f(c)$$

- If f is not continuous at c, then we say that f is discontinuous at c and c is called the point of discontinuity.
- A real function f is said to be continuous, if it is continuous at every point in the domain of f.

- If f and g are two continuous real functions, then
  - $(f+g)$, $(f-g)$, $f.g$ are continuous
  - $\frac{f}{g}$ is continuous provided g assumes non zero value.
- If f and g are two continuous functions, then fog is also continuous.