2. Continuity of a Function in Open and Closed Interval.

Open interval: A function $f(x)$ is said to be continuous in an open interval (*a, b*) iff it is continuous at every point in that interval.

Note**:**This definition implies the non-breakable behavior of the function $f(x)$ in the interval (*a, b*).

Closed interval:A function $f(x)$ is said to be continuous in a closed interval [*a, b*] iff,

(1) *f* is continuous in (*a*, *b*)

(2)*fis* continuous from the right at '*a*' *i.e.* $\lim_{x \to a^+} f(x) = f(a)$

(3)*fis* continuous from the left at '*b*' *i.e.* $\lim_{x \to b^-} f(x) = f(b)$.