

# §8-3 End Behavior of Sequences

$$b_n = \frac{1}{n} + b$$

Convergent — as the term number gets larger + larger, the term value approaches a specific number. [finite limit]

$$\lim_{n \rightarrow \infty} b_n = b$$


$$\begin{cases} c_1 = 10 \\ c_n = c_{n-1} \end{cases} \quad (1.2) \quad n > 1, n \in \mathbb{Z}$$

Divergent — as the term number gets larger + larger, the term value does not approach a specific number. [no limit]

$$\lim_{n \rightarrow \infty} c_n = +\infty, \text{ D.N.E.}$$

D  
o  
n  
o  
t  
e  
x  
i  
s  
t

To decide

- ① numerically —  
look @ 1<sup>st</sup> 50-100 terms OR +compare test large term numbers (explicit formula)
- ② graphically — scatter plot  
 — window limitations
- ③ analytically — think it out (reasoning)  
algebraic techniques