BARISAN DAN DERET

Oleh : Danang Mursita

Materi yang dibahas pada bab ini adalah Barisan Bilangan, Deret Tak Hingga, Deret Berganti Tanda, Konvergen Mutlak dan Bersyarat, Deret Pangkat, Deret Taylor dan Mac Laurin, Turunan dan Integral Deret Pangkat

6.1 Barisan Bilangan

Barisan bilangan tak hingga didefinisikan sebagai fungsi dengan domain merupakan bilangan bulat positif. Notasi yang biasa digunakan adalah:

$$a: n \rightarrow \{a_n\}_{n=1}^{\infty} = a_1, a_2, \ldots \quad , \quad n \in B^+.$$

$a_n \in \Re$ merupakan suku barisan ke-n dan tiga buah titik setelah suku kedua menunjukkan bahwa suku-suku barisan tersebut sampai tak hingga.

Contoh 0-1

1. $\left\{\dfrac{1}{n}\right\}_{n=1}^{\infty} = 1, \dfrac{1}{2}, \dfrac{1}{3}, \ldots, \dfrac{1}{n}, \ldots$

2. $\left\{\dfrac{n}{n+1}\right\}_{n=1}^{\infty} = \dfrac{1}{2}, \dfrac{2}{3}, \ldots, \dfrac{n}{n+1}, \ldots$

3. $\left\{(-1)^{n+1}(n+2)\right\}_{n=1}^{\infty} = 3, -4, 5, \ldots, (-1)^{n+1}(n+2), \ldots$

Barisan bilangan tak hingga $\{a_n\}_{n=1}^{\infty}$ disebut barisan **konvergen** ke L $\in \Re$ bila $\lim\limits_{n\to\infty} a_n = L$, sedangkan bila limit tidak ada atau nilainya tak hingga maka barisan bilangan tak hingga $\{a_n\}_{n=1}^{\infty}$ disebut barisan **divergen**.

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