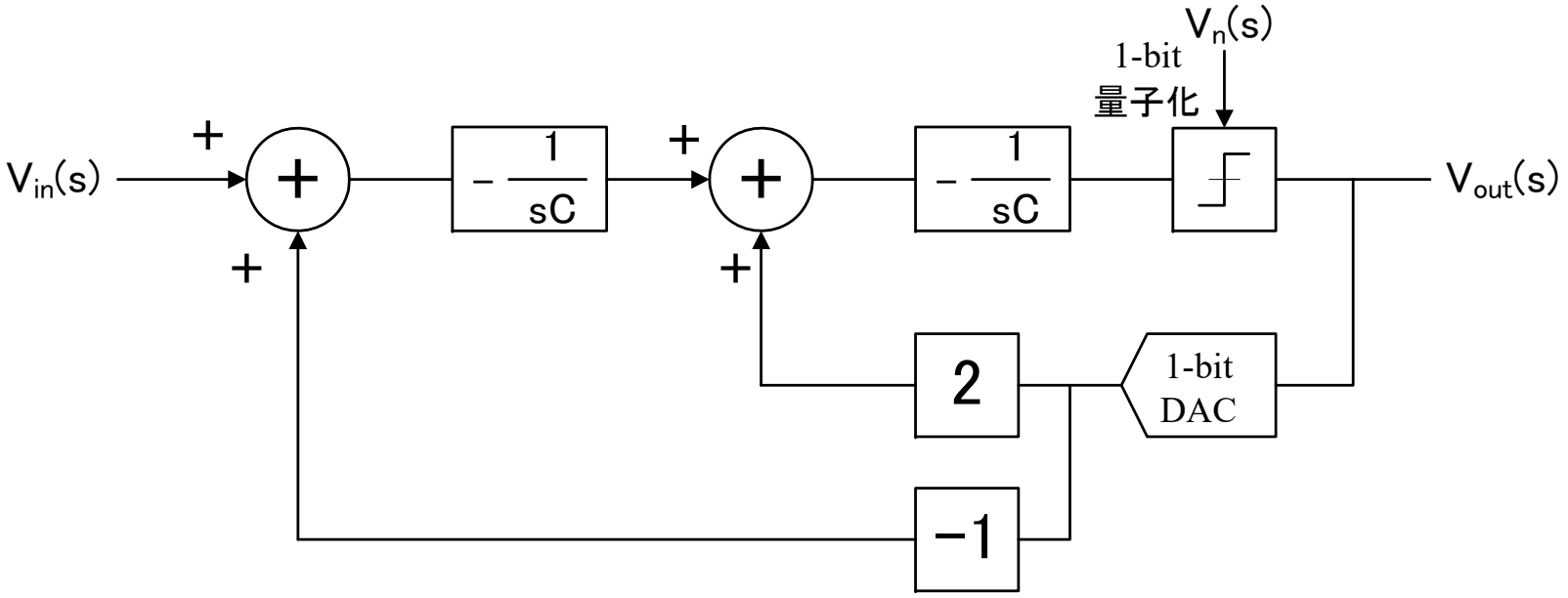
Problems 04

DELTA-SIGMA MODULATORS

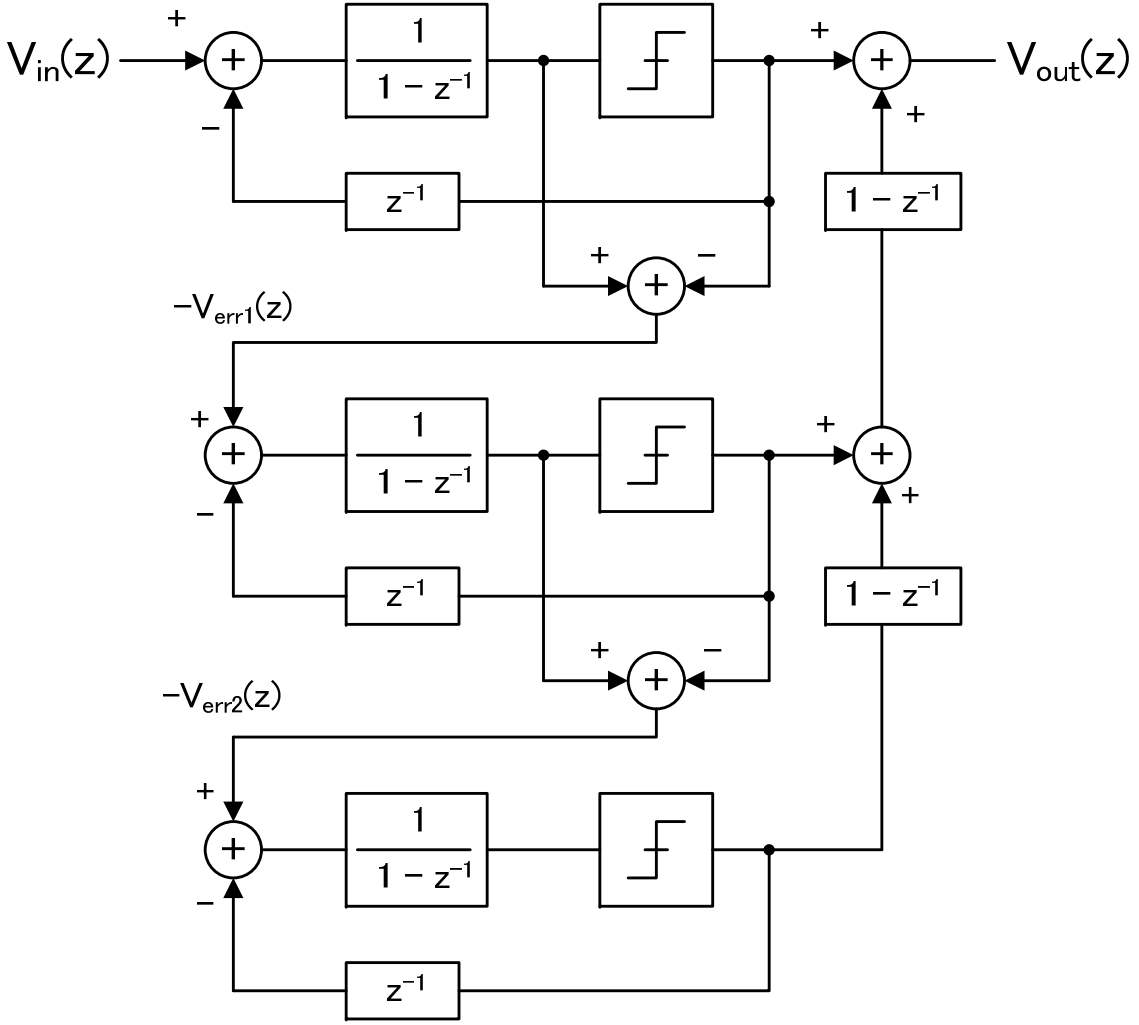
Problem 1

1. Assuming that the delay time of quantizer is 0s, find the transfer functions $H_s(s) = V_{out}(s)/V_{in}(s)$, ($V_n(s) = 0$) and $H_n(s) = V_{out}(s)/V_n(s)$, ($V_{in}(s) = 0$).
2. Fined the poles and zeros of $H_s(s)$ and $H_n(s)$, respectively.
3. What type filters (LPF, BPF, HPF) are the frequency responses of $H_s(s)$ and $H_n(s)$ classified as?



Problem 2

1. (1) Find the transfer function. Also show the calculation process.



Problem 3

1. Find the transfer function. Also show the calculation process.