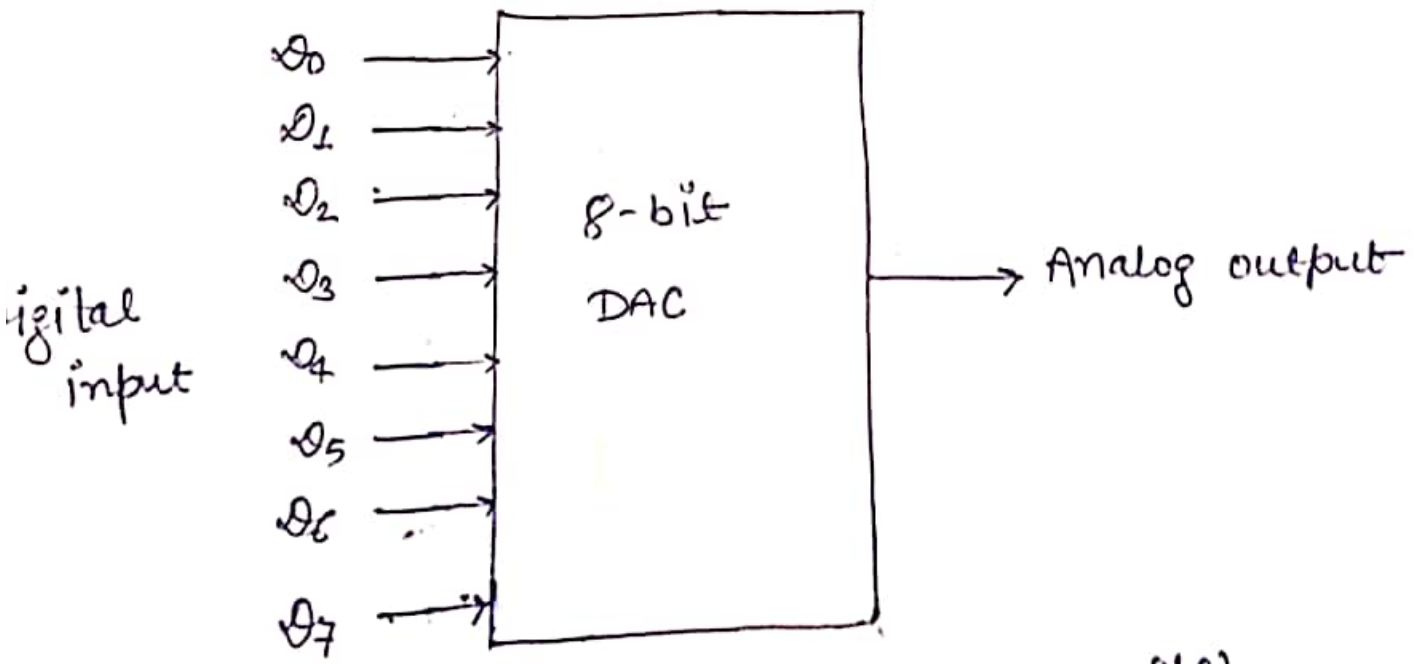A

DAC converts an abstract finite-precision number (usually a fixed point binary number) into a Physical quantity (e.g. a voltage or a pressure etc) in particular.
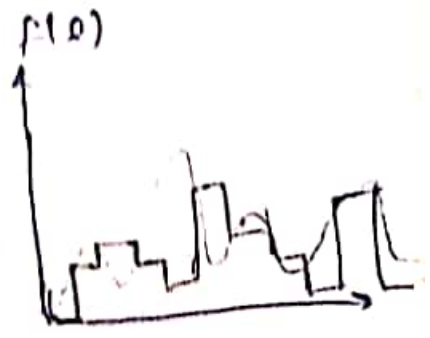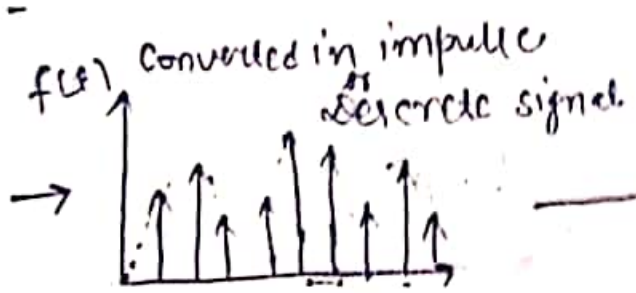
DACs are often used to convert finite-precision time Series data to a continuous varying physical signal.

An ideal DAC converts the abstract numbers into a Conceptual concept sequence of impulse that are then processed by a reconstruction filter (it is used to construct a smooth analog signal from a digital input)

functional diagram of 8-bit DAC.

D_0 ———→
D_1 ———→
D_2 ———→
D_3 ———→   8-bit
D_4 ———→   DAC   ———→ Analog output
D_5 ———→
D_6 ———→
D_7 ———→

Digital input

mple with process -
$r(t)$ (input) $f(t)$ Converted in impulse $r(t)$
                              Discrete signal.

A digital to analog converter converts digital input signal in to an analog output signal.

The digital signal is represented with a binary code which is 0 and 1

in general, the number number of binary input will be a power of two.
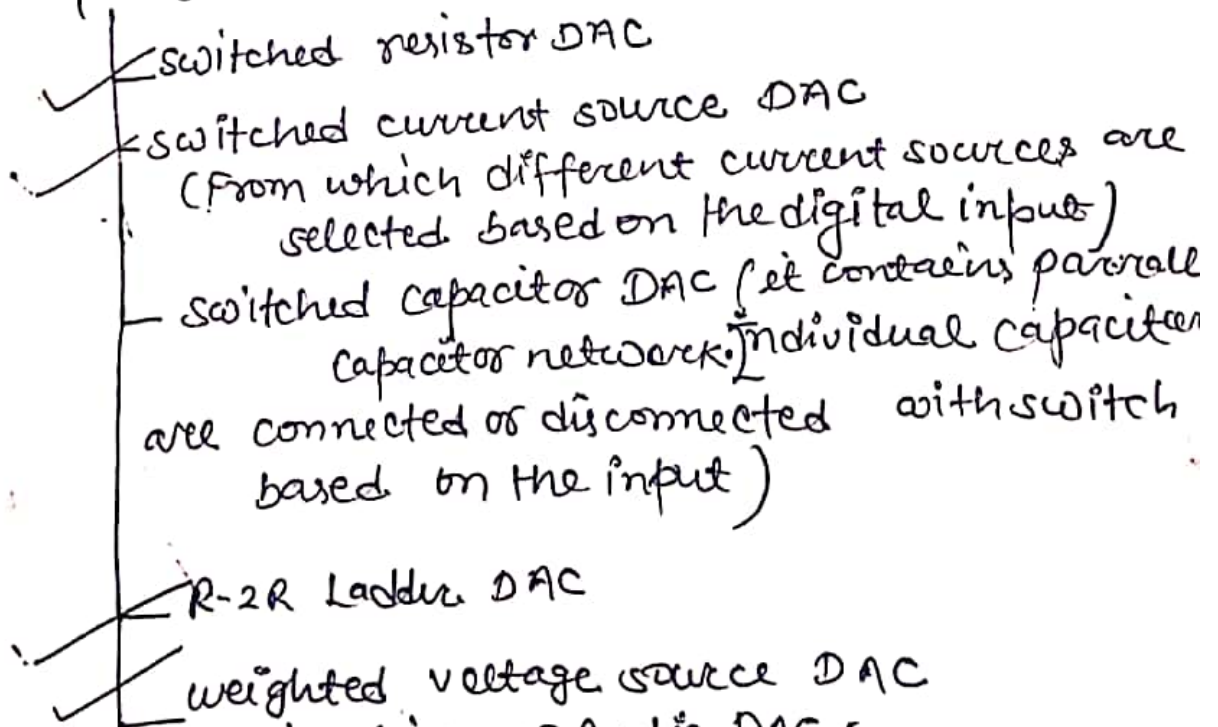
Common Types of DAC.s

① Binary weighted resistor DAC

② R-2R Ladder DAC

other types of D.ACs

② * Pulse width modulators

③ * Oversampling DACS or interpolating DACs

* Binary weighted DACs

├ switched resistor DAC

├ switched current source DAC
│   (From which different current sources are
│   selected based on the digital input)

├ switched capacitor DAC (it contains parallel
│   capacitor network. Individual capacitor
│   are connected or disconnected with switch
│   based on the input)

├ R-2R Ladder DAC

└ weighted voltage source DAC

④ Successive approximation or Cyclic DAC.

⑤ Thermocoded DAC

⑥ Hybrid DACs – – – – – many