COA
ASSIGNMENT

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Topic: Registers And
It's types

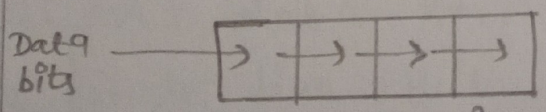
Registers

Registers are commonly used for the temporary storage of data within a digital system. A registers is a data group of binary storage cells suitable for holding binary information. A group of flip-flop constitutes a registers, since each flip-flop is a binary cell capalele of storing 1 bit of information. An n-bit register has a group of n flip-flops and is capable of storing any binary information containing n-bits.

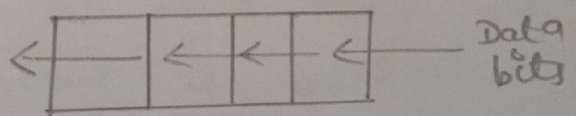
A counter is a special type of register that goes through a predetermined sequence of states upon the application of the input pulses. There are 5 types of registers –

1) **Shift Registers** =

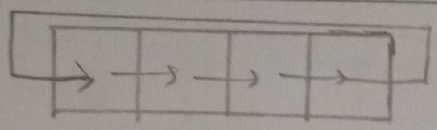
A register that permits the movement of data from stage to stage within the register or into or out of the register is known as shift register.



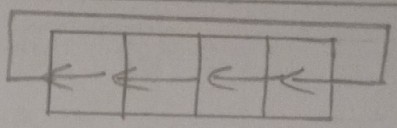
Serial shift right, then out



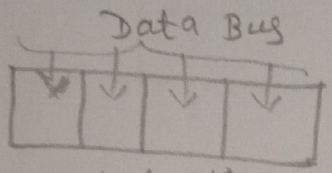
Serial shift left, then out



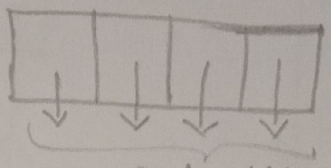
rotate right



rotate Left



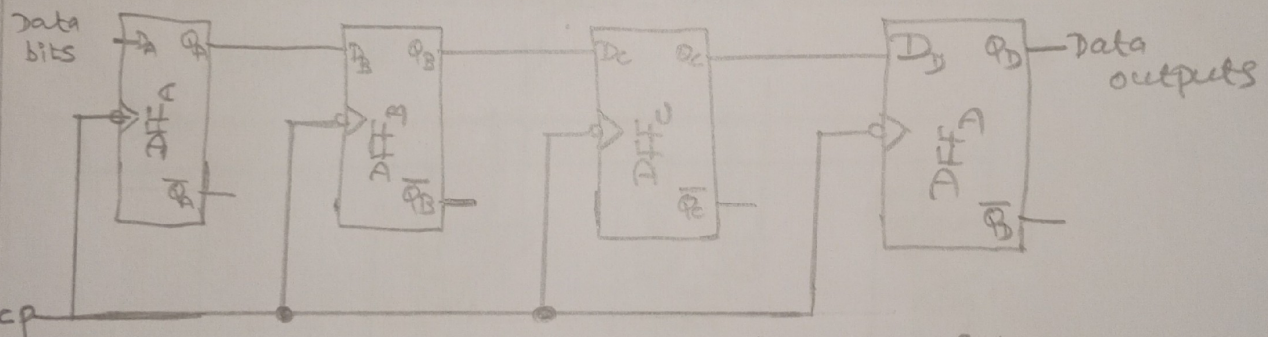
parallel shift In



Data bits
parallel out

2) Serial-In, serial-out registers =

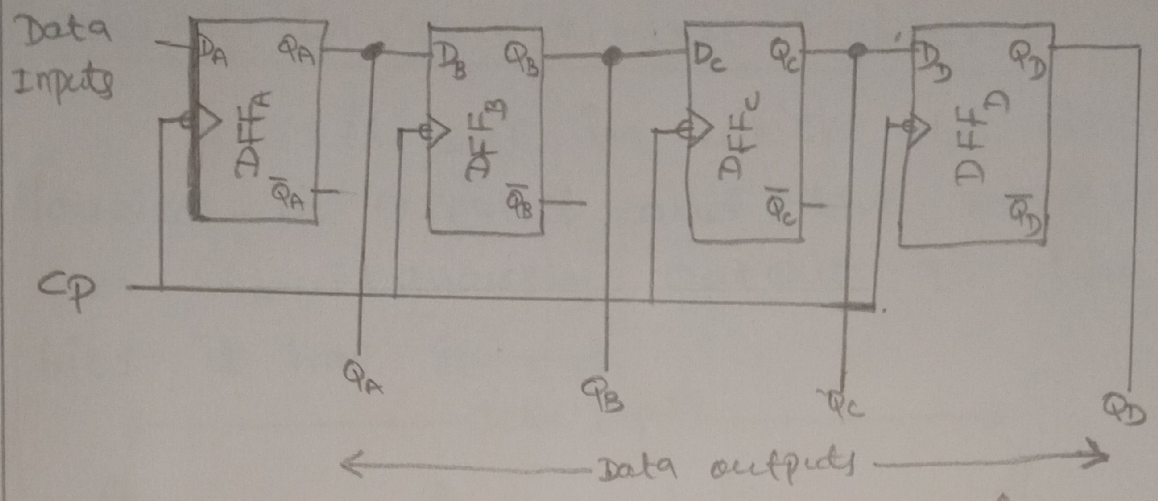
This kind of shift registers accepts data serially — that is, 1 bit at a time on a single line. It produces the stored information on its output also in serial form.



4-Bit SISO Shift Register

3) Serial In, parallel-out Registers =

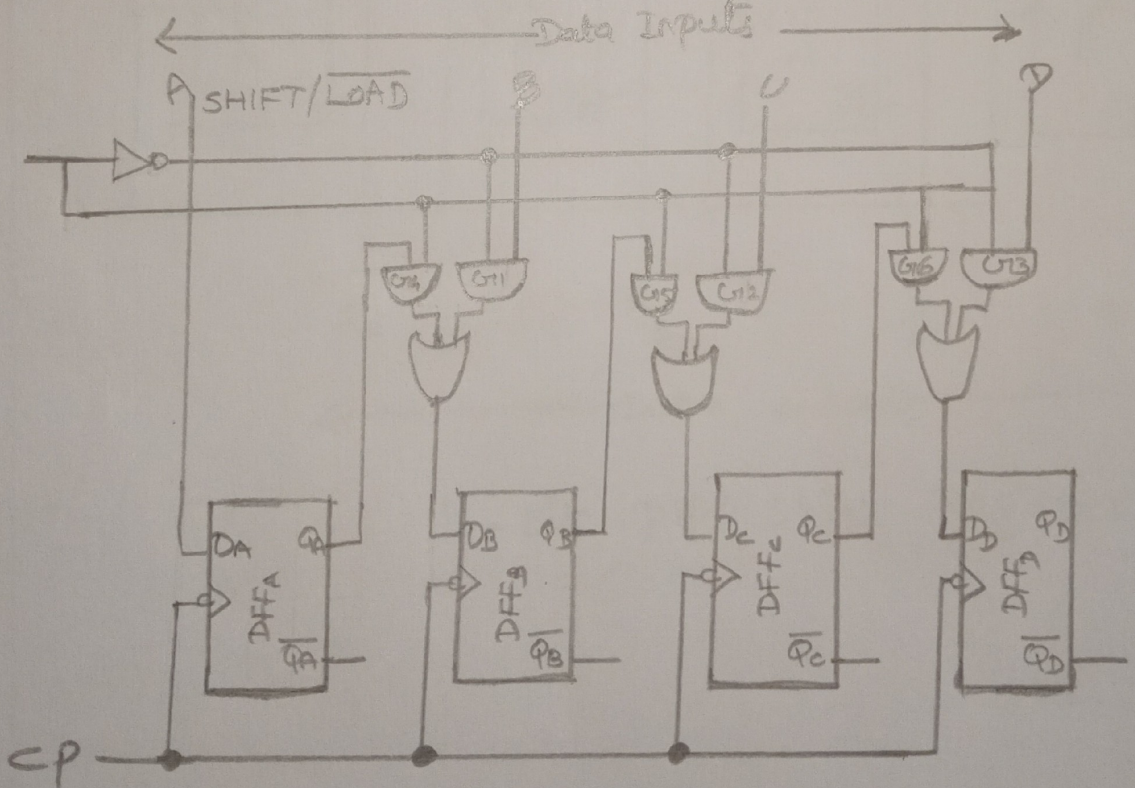
This kind of shift registers also accepts data serially — one bit at a time on a single line. But the output is available in parallel, that is the output of each stage is available. once the data is stored, each bit appears on its respective output line.



4-Bit SIPO shift registers

4) Parallel In, Serial-out registers =

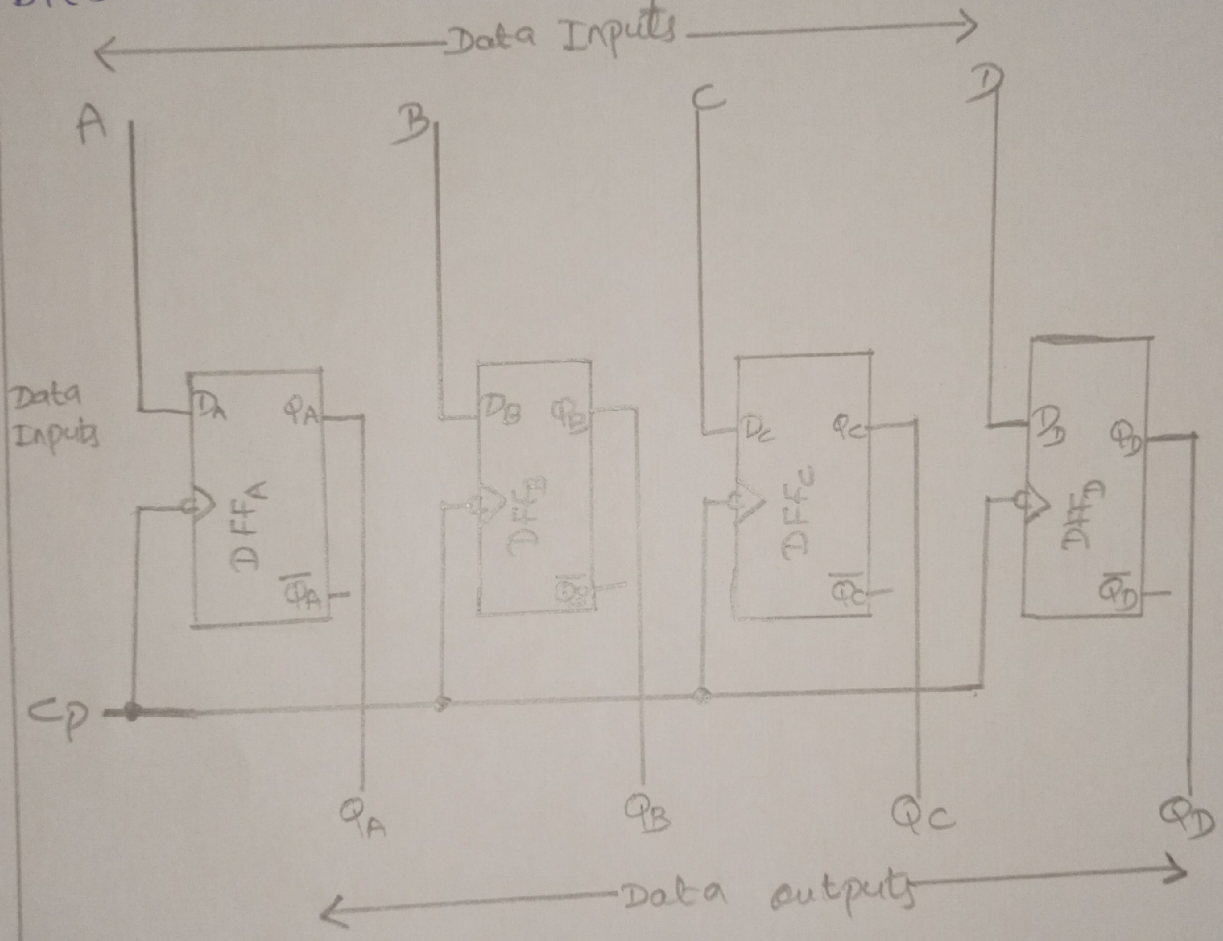
once the data are completly stored in the registers, the serial out is executed in the same manner as in PISO shift register.



4-Bit PISO shift register

5) Parallel-In, Parallel-Out registers =

It is one in which the data are loaded in parallel and the register can simultaneously output all the bits it has stored.



4-Bit PIPO Shift Register