FF and Latch

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This document was produced by using OpenOffice and Octave.

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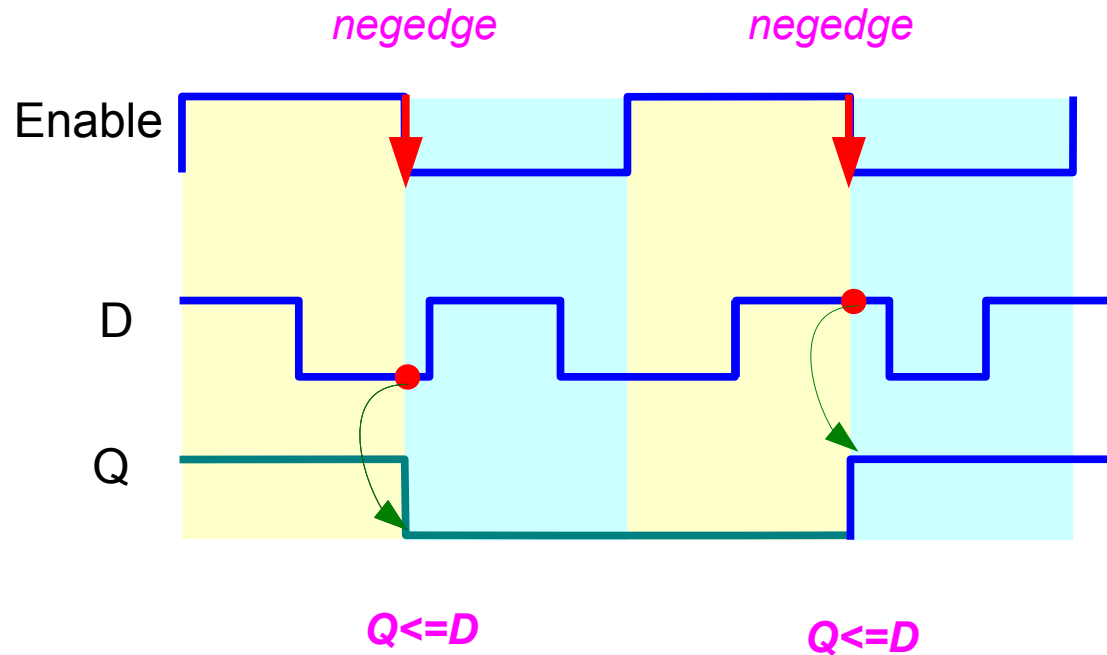
Latch

Level Sensitive

transparent   opaque   transparent   opaque

Enable

D

Q

Q<=D   Retain Q   Q<=D   Retain Q
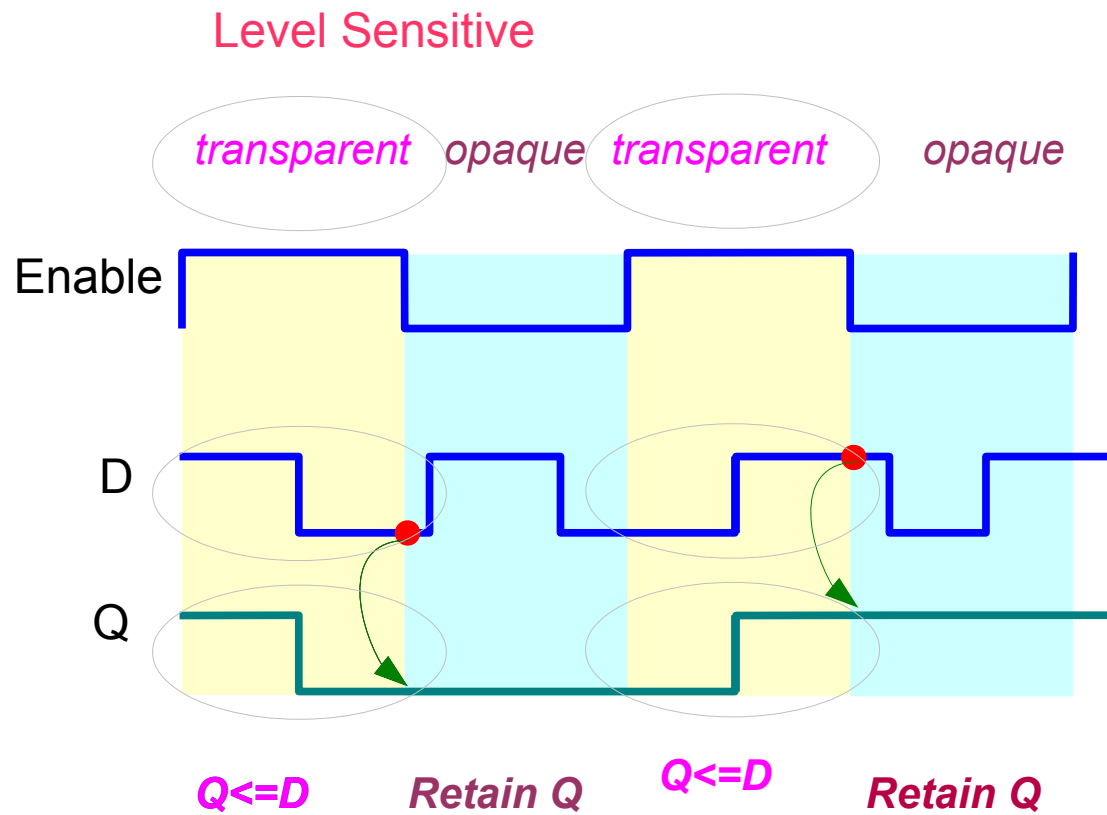
```
process (D,Enable)
begin
  if Enable = '1' then
    Q <= D;
  end if;
end process;
```

Flip Flop

Edge Sensitive

negedge   negedge

Enable

D

Q

Q<=D   Q<=D

```
DFF : process(RST, CLK)
begin
  if RST = '1' then
    Q <= '0';
  elsif CLK'event and CLK = '0'
then
    Q <= D;
  end if;
end process DFF;
```

Flip Flop (2)

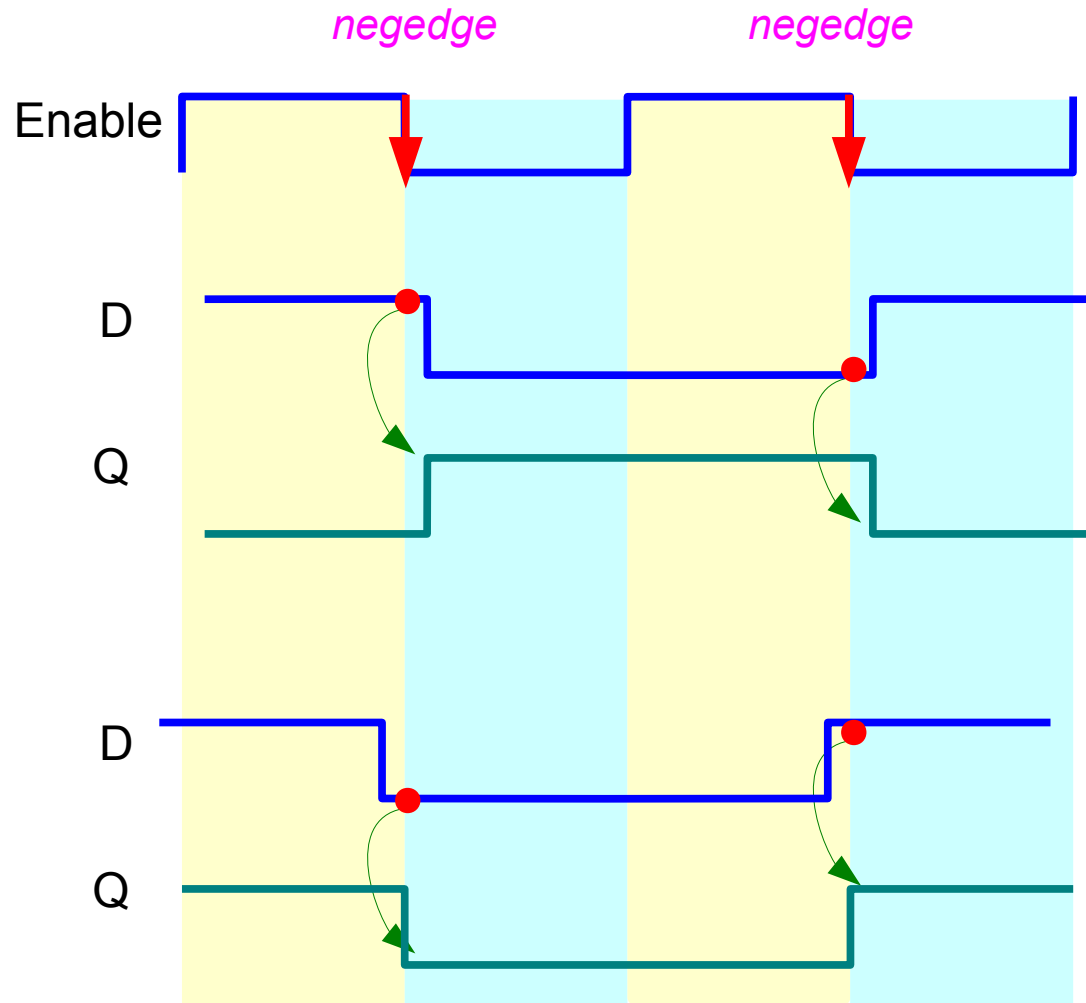Edge Sensitive

negedge   *negedge*

Enable

D

Q

D

Q

```
DFF : process(RST, CLK)
begin
  if RST = '1' then
    Q <= '0';
  elsif CLK'event and CLK = '0'
then
    Q <= D;
  end if;
end process DFF;
```

References

[1] http://en.wikipedia.org/
[2]