1. **What's the advantage of the Pulse swallow divider in Fig. 10.1 over a fixed (NR+S) divider when used in Integer-N Frequency Synthesizer ?**

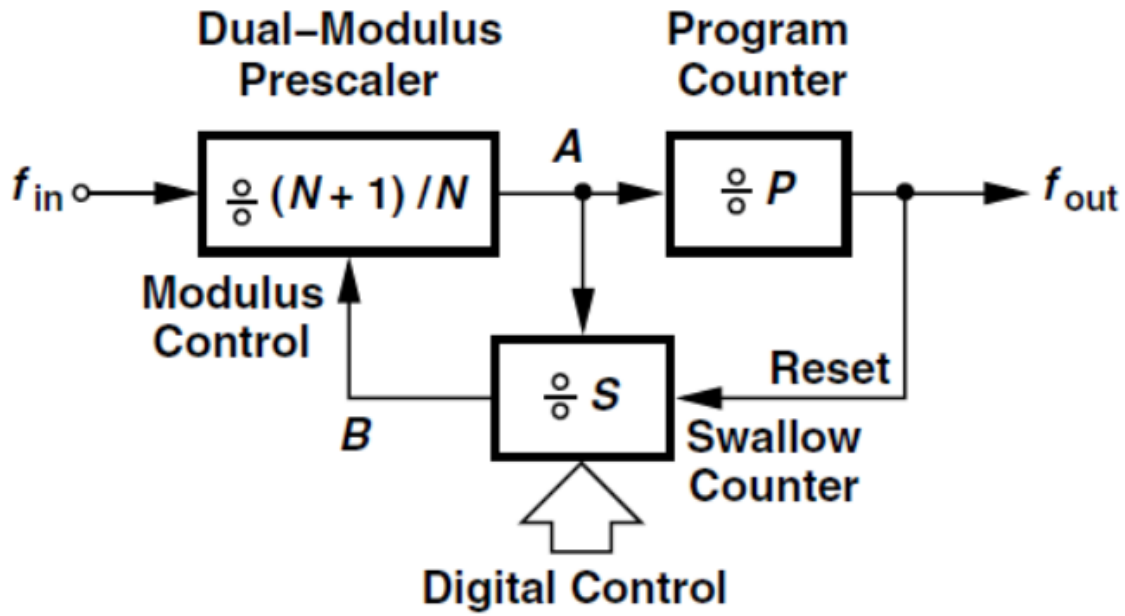


Fig. 10.1

1. Pulse swallow divider is programmable
2. The combination of prescaler and multiple counters greatly reduces the power consumption of the Divider

2. How can the XOR of Fig. 10.2 be modified to provide differential outputs?

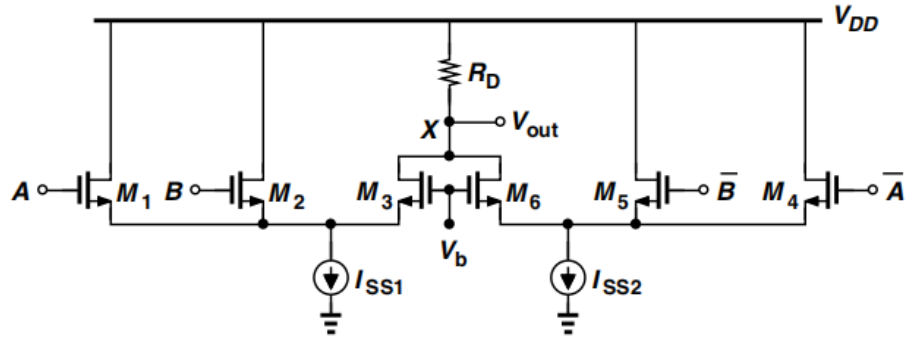
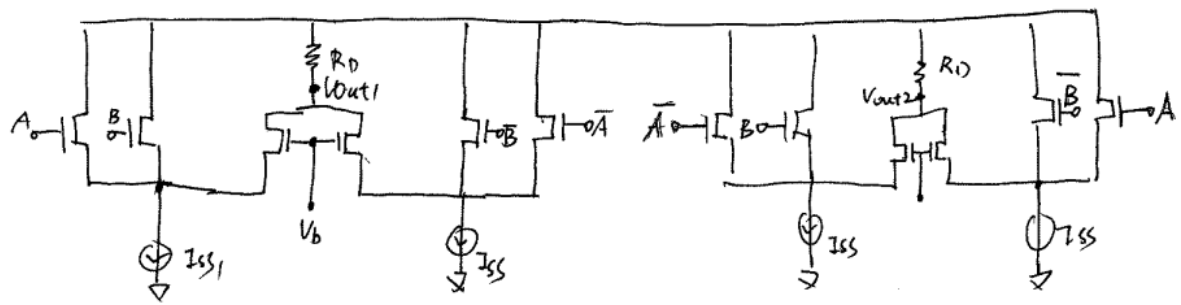


Fig. 10.2



$\therefore V_{out1} = \overline{A}B + A\overline{B}$;

$\overline{V_{out1}} = \overline{\overline{A}B + A\overline{B}} = (A+\overline{B})\cdot(\overline{A}+B)$

$= A\cdot B + \overline{B}\cdot\overline{A}$.

$\therefore V_{out2} = A\cdot B + \overline{A}\cdot\overline{B}$