

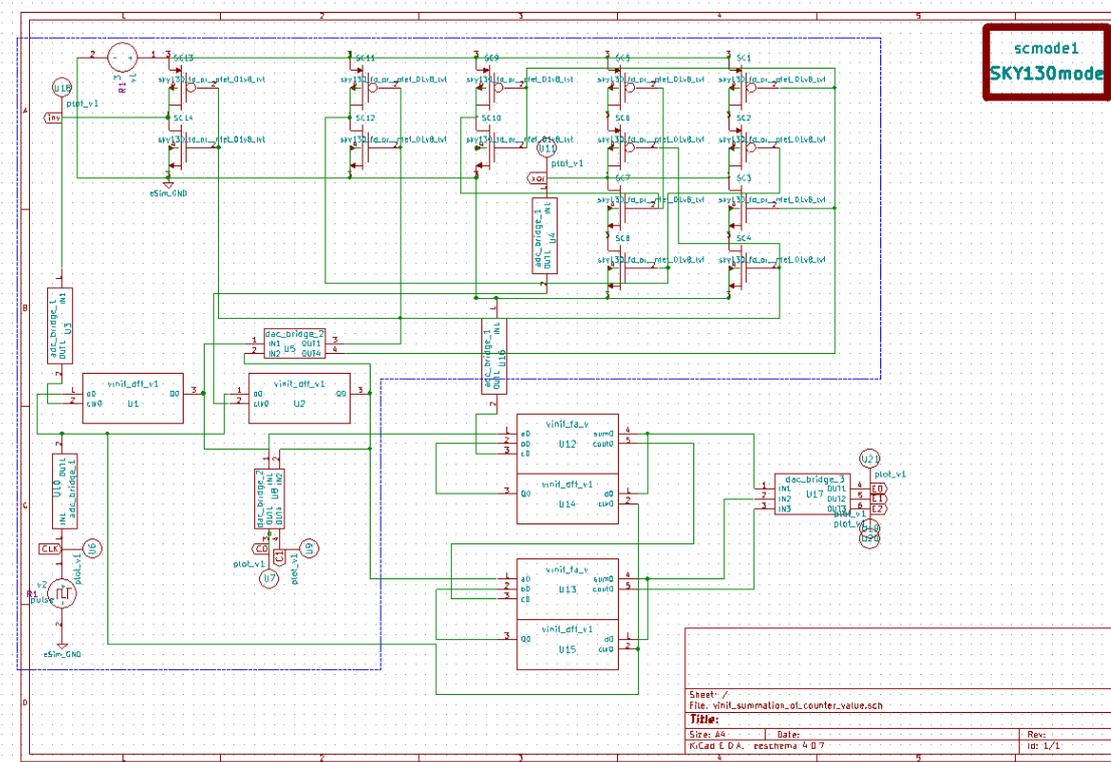
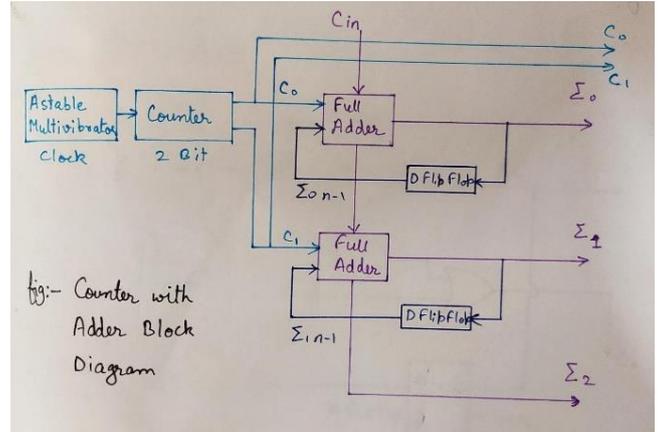
# Consecutive Summation of Counter Output

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**Abstract** - This is a circuit to perform consecutive summation of the output of the counter to the current value of the summation output. This circuit performs the summation as given by equation  $\sum_{a=0}^n a$ , where the value of a can be in any sequence as designed by the user.



```
ngspice 35 tran
Warning: redefinition of subckt sky130_fd_pr_res_high_po, ignored
Warning: redefinition of subckt sky130_fd_pr_res_xhigh_po_0p35, ignored
Warning: redefinition of subckt sky130_fd_pr_res_xhigh_po_0p69, ignored
Warning: redefinition of subckt sky130_fd_pr_res_xhigh_po_1p41, ignored
Warning: redefinition of subckt sky130_fd_pr_res_xhigh_po_2p85, ignored
Warning: redefinition of subckt sky130_fd_pr_res_xhigh_po_5p73, ignored
Warning: redefinition of subckt sky130_fd_pr_res_xhigh_po_base, ignored
Warning: redefinition of subckt sky130_fd_pr_res_high_po_0p35, ignored
Warning: redefinition of subckt sky130_fd_pr_res_high_po_0p69, ignored
Warning: redefinition of subckt sky130_fd_pr_res_high_po_1p41, ignored
Warning: redefinition of subckt sky130_fd_pr_res_high_po_2p85, ignored
Warning: redefinition of subckt sky130_fd_pr_res_high_po_5p73, ignored
Circuit: * c:\users\vinit\esim-workspace\vinit_summation_of_counter_value
\vinit_summation_of_counter_value.cir
option SCALE: Scale is set to 1e-06 for instance and model parameters
Reducing trtol to 1 for xspice 'A' devices
C:\Users\vinit\esim-workspace\vinit_summation_of_counter_value\vinit_sum tran Quit
```

Stage	C <sub>0</sub>	C <sub>1</sub>	Σ <sub>0</sub>	Σ <sub>1</sub>	Σ <sub>2</sub>
I	0	0	0	0	0
II	0	1	0	0	1
III	1	0	0	1	1
IV	1	1	1	1	0

fig:- Output