

$$V_{in} = 5$$

$$\frac{5}{16} = 0.3125$$

$$\frac{5}{8} = 0.625$$

$$\frac{5}{4} = 1.25$$

$$\frac{5}{2} = 2.5$$

$$-\left(\frac{V_A}{2} + \frac{V_B}{4} + \frac{V_C}{8} + \frac{V_D}{16}\right)$$

Theoretical
(Experiment)

Simulation
(Experiment)

Input State	Equation	Output	Output	Experiment
0	0	0	0.002	0
1	$\frac{5}{16}$	- 0.3125	- 0.31	- 0.307
2	$\frac{5}{8}$	- 0.625	- 0.623	- 0.620
3	$\frac{5}{8} + \frac{5}{16}$	- 0.9375	- 0.935	- 0.927
4	$\frac{5}{4}$	- 1.25	- 1.25	- 1.24
5	$\frac{5}{4} + \frac{5}{16}$	- 1.5625	- 1.56	- 1.55
6	$\frac{5}{4} + \frac{5}{8}$	- 1.875	- 1.87	- 1.86
7	$\frac{5}{4} + \frac{5}{8} + \frac{5}{16}$	- 2.1875	- 2.19	- 2.17
8	$\frac{5}{2}$	- 2.5	- 2.50	- 2.49
9	$\frac{5}{2} + \frac{5}{16}$	- 2.8125	- 2.81	- 2.81
10	$\frac{5}{2} + \frac{5}{8}$	- 3.125	- 3.12	- 3.12
11	$\frac{5}{2} + \frac{5}{8} + \frac{5}{16}$	- 3.4375	- 3.44	- 3.42
12	$\frac{5}{2} + \frac{5}{4}$	- 3.75	- 3.75	- 3.74
13	$\frac{5}{2} + \frac{5}{4} + \frac{5}{16}$	- 4.0625	- 4.06	- 4.05
14	$\frac{5}{2} + \frac{5}{4} + \frac{5}{8}$	- 4.375	- 4.37	- 4.36
15	$\frac{5}{2} + \frac{5}{4} + \frac{5}{8} + \frac{5}{16}$	- 4.6875	- 4.69	- 4.66

Siddharth
Siddharth
6/22/2022

KEITHLEY
A Tektronix Company

2110 5 1/2 DIGIT MULTIMETER

*
-040452 V DC
RANGE 10 V DC

TC INPUT



POWER



OFF
ON

DCI

DCV

ACI

ACV

Ω 4

Ω 2

Hz

FREQ

Hz

CONT

TCOUP

TEMP

2ND

ENTER

AUTO/HOLD

TRIGGER

RECALL

STORE

FILTER

DIGITS

MATH

NULL

LOCAL

SHIFT

MENU

CONFIG

AUTO

ESC

RANGE +



RANGE -

