HW 03 OrKom - 13521024_Ahmad Nadil

Practice Problem 2.47

Bits	e	E	2^E	f	M	$2^E \times M$	V	Decimal
0 00 00	0	0	1	0/4	0/4	0/4	0	0 0
0 00 01	0	0	1	1/4	1/4	1/4	1/4	0 25
0 00 10	0	0	1	2/4	2/4	2/4	1/2	0 5
0 00 11	0	0	1	3/4	3/4	3/4	3/4	0 75
0 01 00	1	0	1	0/4	4/4	4/4	1	1,0
0 01 01	1	0	1	$\frac{1}{4}$	$\frac{5}{4}$	$\frac{5}{4}$	$\frac{5}{4}$	1.25

Bits	e	E	2^E	f	M	$2^E \times M$	V	Decimal
0 01 10	1	0	1	2/4	6/4	6/4	3/2	1,5
0 01 11	1	0	1	3/4	7/4	7/4	7/4	1,75
0 10 00	2	1	2	0/4	4/4	8/4	2	2,0
0 10 01	2	1	2	1/4	5/4	10/4	5/2	2,5
0 10 10	2	1	2	2/4	6/4	12/4	3	3,0
0 10 11	2	1	2	3/4	7/4	14/4	7/2	3,5
0 11 00	—	—	—	—	—	—	∞	—
0 11 01	—	—	—	—	—	—	NaN	—
0 11 10	—	—	—	—	—	—	NaN	—
0 11 11	—	—	—	—	—	—	NaN	—

Practice Problem 2.50

Show how the following binary fractional values would be rounded to the nearest half (1 bit to the right of the binary point), according to the round-to-even rule. In each case, show the numeric values, both before and after rounding.

A. 10.111_2

B. 11.010_2

C. 11.000_2

D. 10.110_2

A Before : 2 + 0 + 1/2 + 1/4 + 1/8 = 2 7/8
Rounded : 11,0 ; 3

B Before : 2 + 1 + 0 + 1/4 + 0 = 3 1/4
Rounded 11,0 ; 3

C Before 2 + 1 + 0 + 0 + 0 = 3
Rounded 11,0 ; 3

D Before 2 + 0 + 1/2 + 1/4 + 0 = 2 3/4
Rounded : 11,0 ; 3