Supplementary: Chap.2-3

- **Ex-1**
- **Ex-2**
- **Ex-3**

Ex-1

■ **Exercise (FP)**

Fractional value	Binary representation	Decimal representation
$\frac{1}{8}$	0.001	0.125
$\frac{3}{4}$	_____	_____
$\frac{25}{16}$	_____	_____
_____	10.1011	_____
_____	1.001	_____
_____	_____	5.875
_____	_____	3.1875

Ex-2

Exercise (IEEE 754 FP; 2 exp bits & 2 frac bits)

Bits	e	E	2^E	f	M	$2^E \times M$	V	Decimal
0 00 00	___	___	___	___	___	___	___	___
0 00 01	___	___	___	___	___	___	___	___
0 00 10	___	___	___	___	___	___	___	___
0 00 11	___	___	___	___	___	___	___	___
0 01 00	___	___	___	___	___	___	___	___
0 01 01	1	0	1	$\frac{1}{4}$	$\frac{5}{4}$	$\frac{5}{4}$	$\frac{5}{4}$	1.25
0 01 10	___	___	___	___	___	___	___	___
0 01 11	___	___	___	___	___	___	___	___
0 10 00	___	___	___	___	___	___	___	___
0 10 01	___	___	___	___	___	___	___	___
0 10 10	___	___	___	___	___	___	___	___
0 10 11	___	___	___	___	___	___	___	___
0 11 00	—	—	—	—	—	—	___	—
0 11 01	—	—	—	—	—	—	___	—
0 11 10	—	—	—	—	—	—	___	—
0 11 11	—	—	—	—	—	—	___	—

Ex-3

■ **Exercise (IEEE 754 FP Conversion)**

(3 exp bits & 4 frac bits)   (4 exp bits & 3 frac bits)

Format A		Format B	
Bits	Value	Bits	Value
011 0000	1	0111 000	1
101 1110	_____	_____	_____
010 1001	_____	_____	_____
110 1111	_____	_____	_____
000 0001	_____	_____	_____

Summary