

# **ARHITECTURA SISTEMELOR DE CALCUL SEMINAR 0x00**

**NOTIȚE SUPORT SEMINAR**

Cristian Rusu

# CONVERSII, EX 1

				0x1111
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hexa: 0x1111

binar:

baza 4:

baza 8:

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 1

				0x1111
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hexa: 0x1111

binar: 0001 0001 0001 0001

baza 4:

baza 8:

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 1

				0x1111
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hexa: 0x1111

binar: 0001 0001 0001 0001

baza 4: 00 01 00 01 00 01 00 01

baza 8:

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 1

				0x1111
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hexa: 0x1111

binar: 0001 0001 0001 0001

baza 4: 00 01 00 01 00 01 00 01 = 01010101

baza 8:

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 1

				0x1111
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hexa: 0x1111

binar: 0001 0001 0001 0001

baza 4: 00 01 00 01 00 01 00 01 = 01010101

baza 8: 0 001 000 100 010 001

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 1

				0x1111
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hexa: 0x1111

binar: 0001 0001 0001 0001

baza 4: 00 01 00 01 00 01 00 01 = 01010101

baza 8: 0 001 000 100 010 001 = 10421

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 1

				0x1111
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hexa: 0x1111

binar: 0001 0001 0001 0001

baza 4: 00 01 00 01 00 01 00 01 = 01010101

baza 8: 0 001 000 100 010 001 = 10421

baza 10: 4369

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1



# CONVERSII, EX 1

1111 1111 0000 0000				
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binar: 1111 1111 0000 0000

hexa:

baza 4:

baza 8:

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 1

1111 1111 0000 0000				
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binar: 1111 1111 0000 0000

hexa: 0xFF00

baza 4:

baza 8:

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 1

1111 1111 0000 0000				
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binar: 1111 1111 0000 0000

hexa: 0xFF00

baza 4: 11 11 11 11 00 00 00 00

baza 8:

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 1

1111 1111 0000 0000				
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binar: 1111 1111 0000 0000

hexa: 0xFF00

baza 4: 11 11 11 11 00 00 00 00 = 33330000

baza 8:

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 1

1111 1111 0000 0000				
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binar: 1111 1111 0000 0000

hexa: 0xFF00

baza 4: 11 11 11 11 00 00 00 00 = 33330000

baza 8: 1 111 111 100 000 000

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 1

1111 1111 0000 0000				
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binar: 1111 1111 0000 0000

hexa: 0xFF00

baza 4: 11 11 11 11 00 00 00 00 = 33330000

baza 8: 1 111 111 100 000 000 = 177400

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 1

1111 1111 0000 0000				
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binar: 1111 1111 0000 0000

hexa: 0xFF00

baza 4: 11 11 11 11 00 00 00 00 = 33330000

baza 8: 1 111 111 100 000 000 = 177400

baza 10: 65280

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 2

				0xFEED
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hexa: 0xFEED

binar:

baza 4:

baza 8:

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1



# CONVERSII, EX 2

				0xFEED
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hexa: 0xFEED

binar: 1111 1110 1110 1101

baza 4:

baza 8:

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 2

				0xFEED
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hexa: 0xFEED

binar: 1111 1110 1110 1101

baza 4: 11 11 11 10 11 10 11 01

baza 8:

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 2

				0xFEED
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hexa: 0xFEED

binar: 1111 1110 1110 1101

baza 4: 11 11 11 10 11 10 11 01 = 33323231

baza 8:

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 2

				0xFEED
--	--	--	--	--------

hexa: 0xFEED

binar: 1111 1110 1110 1101

baza 4: 11 11 11 10 11 10 11 01 = 33323231

baza 8: 1 111 111 011 101 101

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 2

				0xFEED
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hexa: 0xFEED

binar: 1111 1110 1110 1101

baza 4: 11 11 11 10 11 10 11 01 = 33323231

baza 8: 1 111 111 011 101 101 = 177355

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 2

				0xFEED
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hexa: 0xFEED

binar: 1111 1110 1110 1101

baza 4: 11 11 11 10 11 10 11 01 = 33323231

baza 8: 1 111 111 011 101 101 = 177355

baza 10: -275

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 2

1111 1111 0000 0000				
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binar: 1111 1111 0000 0000

hexa:

baza 4:

baza 8:

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 2

1111 1111 0000 0000				
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binar: 1111 1111 0000 0000

hexa: 0xFF00

baza 4:

baza 8:

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1



# CONVERSII, EX 2

1111 1111 0000 0000				
---------------------	--	--	--	--

binar: 1111 1111 0000 0000

hexa: 0xFF00

baza 4: 11 11 11 11 00 00 00 00

baza 8:

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 2

1111 1111 0000 0000				
---------------------	--	--	--	--

binar: 1111 1111 0000 0000

hexa: 0xFF00

baza 4: 11 11 11 11 00 00 00 00 = 33330000

baza 8:

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 2

1111 1111 0000 0000				
---------------------	--	--	--	--

binar: 1111 1111 0000 0000

hexa: 0xFF00

baza 4: 11 11 11 11 00 00 00 00 = 33330000

baza 8: 1 111 111 100 000 000

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 2

1111 1111 0000 0000				
---------------------	--	--	--	--

binar: 1111 1111 0000 0000

hexa: 0xFF00

baza 4: 11 11 11 11 00 00 00 00 = 33330000

baza 8: 1 111 111 100 000 000 = 177400

baza 10:

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# CONVERSII, EX 2

1111 1111 0000 0000				
---------------------	--	--	--	--

binar: 1111 1111 0000 0000

hexa: 0xFF00

baza 4: 11 11 11 11 00 00 00 00 = 33330000

baza 8: 1 111 111 100 000 000 = 177400

baza 10: -256

0 <sub>hex</sub>	=	0 <sub>dec</sub>	=	0 <sub>oct</sub>	0	0	0	0
1 <sub>hex</sub>	=	1 <sub>dec</sub>	=	1 <sub>oct</sub>	0	0	0	1
2 <sub>hex</sub>	=	2 <sub>dec</sub>	=	2 <sub>oct</sub>	0	0	1	0
3 <sub>hex</sub>	=	3 <sub>dec</sub>	=	3 <sub>oct</sub>	0	0	1	1
4 <sub>hex</sub>	=	4 <sub>dec</sub>	=	4 <sub>oct</sub>	0	1	0	0
5 <sub>hex</sub>	=	5 <sub>dec</sub>	=	5 <sub>oct</sub>	0	1	0	1
6 <sub>hex</sub>	=	6 <sub>dec</sub>	=	6 <sub>oct</sub>	0	1	1	0
7 <sub>hex</sub>	=	7 <sub>dec</sub>	=	7 <sub>oct</sub>	0	1	1	1
8 <sub>hex</sub>	=	8 <sub>dec</sub>	=	10 <sub>oct</sub>	1	0	0	0
9 <sub>hex</sub>	=	9 <sub>dec</sub>	=	11 <sub>oct</sub>	1	0	0	1
A <sub>hex</sub>	=	10 <sub>dec</sub>	=	12 <sub>oct</sub>	1	0	1	0
B <sub>hex</sub>	=	11 <sub>dec</sub>	=	13 <sub>oct</sub>	1	0	1	1
C <sub>hex</sub>	=	12 <sub>dec</sub>	=	14 <sub>oct</sub>	1	1	0	0
D <sub>hex</sub>	=	13 <sub>dec</sub>	=	15 <sub>oct</sub>	1	1	0	1
E <sub>hex</sub>	=	14 <sub>dec</sub>	=	16 <sub>oct</sub>	1	1	1	0
F <sub>hex</sub>	=	15 <sub>dec</sub>	=	17 <sub>oct</sub>	1	1	1	1

# Operații Binare, Ex 3

$$\begin{array}{r|l} 0101\ 1100\ 1111\ 0011 & \\ 1111\ 1111\ 0000\ 0000 & + \\ \hline & \end{array}$$

$$\begin{array}{r|l} 1111\ 1111\ 1111\ 1111 & \\ 0000\ 0000\ 0000\ 0001 & + \\ \hline & \end{array}$$

- care sunt operanzii (zecimal)?

# Operații Binare, Ex 3

$$\begin{array}{r|l} 0101\ 1100\ 1111\ 0011 & \\ 1111\ 1111\ 0000\ 0000 & + \\ \hline & \end{array}$$

$$\begin{array}{r|l} 1111\ 1111\ 1111\ 1111 & \\ 0000\ 0000\ 0000\ 0001 & + \\ \hline & \end{array}$$

- **care sunt operanzii (zecimal)?**
  - stânga: 23795 și -256
  - dreapta: -1 și +1

# Operații Binare, Ex 3

$$\begin{array}{r|l} 1111 & 1111 & 1111 & 1111 \\ 1000 & 0000 & 0000 & 0000 \\ \hline & + & & \end{array}$$

$$\begin{array}{r|l} 1000 & 0000 & 0000 & 0000 \\ 0000 & 0000 & 0000 & 0001 \\ \hline & + & & \end{array}$$

- care sunt operanzii (zecimal)?



# Operații Binare, Ex 3

$$\begin{array}{r|l} 1111 & 1111 & 1111 & 1111 \\ 1000 & 0000 & 0000 & 0000 \\ \hline & + & & \end{array}$$

$$\begin{array}{r|l} 1000 & 0000 & 0000 & 0000 \\ 0000 & 0000 & 0000 & 0001 \\ \hline & + & & \end{array}$$

- **care sunt operanzii (zecimal)?**
  - stânga: -1 și -32 768
  - dreapta: -32 768 și +1

# Operații Binare, Ex 4

$$\begin{array}{r|l} 0101 & 1100 & 1111 & 0011 \\ 0101 & 1100 & 1111 & 0011 \\ \hline & \text{AND} \end{array}$$

X	Y	X AND Y
0	0	0
0	1	0
1	0	0
1	1	1

$$\begin{array}{r|l} 1101 & 1100 & 1111 & 0011 \\ 1101 & 1100 & 1111 & 0011 \\ \hline & \text{XOR} \end{array}$$

X	Y	X XOR Y
0	0	0
0	1	1
1	0	1
1	1	0

# Operații Binare, Ex 4

$$\begin{array}{cccc|c} 0000 & 0000 & 1111 & 1111 & \\ 0000 & 0001 & 0000 & 0000 & \text{AND} \\ \hline \end{array}$$

$$\begin{array}{cccc|c} 1100 & 0110 & 1001 & 1110 & \\ 1001 & 1111 & 0110 & 1100 & \text{XOR} \\ 1100 & 0110 & 1001 & 1110 & \text{XOR} \\ \hline \end{array}$$

X	Y	X AND Y
0	0	0
0	1	0
1	0	0
1	1	1

X	Y	X XOR Y
0	0	0
0	1	1
1	0	1
1	1	0

# ÎNTREBĂRI SCURTE, EX 5

- a)  $2^N - 1$
- b)  $2^{N-1} - 1$  și  $-2^{N-1}$
- c) aproximativ  $\log_2 x$ , exact sunt  $\text{ceil}(\log_2 (x+1))$
- d)  $4k$
- e)  $\text{ceil}(k / 4)$
- f)  $\text{ceil}(k \log_2 10)$

# BINARY FIXED-POINT, EX 6

...	$2^7$	$2^6$	$2^5$	$2^4$	$2^3$	$2^2$	$2^1$	$2^0$		$2^{-1}$	$2^{-2}$	$2^{-3}$	$2^{-4}$	$2^{-5}$	$2^{-6}$	$2^{-7}$	...
-----	-------	-------	-------	-------	-------	-------	-------	-------	--	----------	----------	----------	----------	----------	----------	----------	-----

- $\frac{1}{2} = 0.5$
- $\frac{1}{4} = 0.25$
- $\frac{1}{8} = 0.125$
- $\frac{1}{16} = 0.0625$
- ...
- **Calculați reprezentările pentru**
  - (a) 101.101;
  - (b) 111.001;
  - (c) 1110.00111;
  - (a) 3.75;
  - (b) 12.3125;
  - (c) 3.078125;

# BINARY FIXED-POINT, EX 6

...	$2^7$	$2^6$	$2^5$	$2^4$	$2^3$	$2^2$	$2^1$	$2^0$		$2^{-1}$	$2^{-2}$	$2^{-3}$	$2^{-4}$	$2^{-5}$	$2^{-6}$	$2^{-7}$	...
-----	-------	-------	-------	-------	-------	-------	-------	-------	--	----------	----------	----------	----------	----------	----------	----------	-----

- $\frac{1}{2} = 0.5$
- $\frac{1}{4} = 0.25$
- $\frac{1}{8} = 0.125$
- $\frac{1}{16} = 0.0625$
- ...

- **Calculați reprezentările pentru**

(a) 101.101; **5.625**

(b) 111.001;

(c) 1110.00111;

(a) 3.75; **11.11**

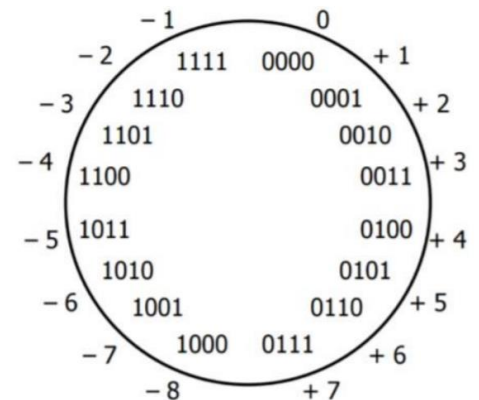
(b) 12.3125;

(c) 3.078125;

# COMPLEMENT FAȚĂ DE DOI, EX 7

bit $b_i$ :	1	1	1	1	0	0	0	1
$2^i$ :	$-2^7$	$2^6$	$2^5$	$2^4$	$2^3$	$2^2$	$2^1$	$2^0$

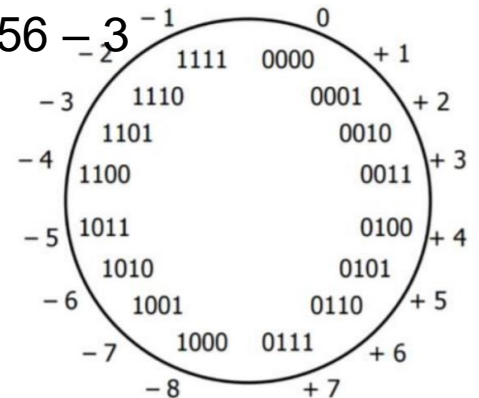
- $$x = -b_{N-1}2^{N-1} + \sum_{i=0}^{N-2} b_i 2^i$$
- ca să reprezentăm un număr negativ, luăm valoarea pozitivă a numărului, îi inversăm biții și adunăm unu
- de ce funcționează această procedură?
  - pornim de la faptul că folosim aritmetică modulo
  - fixăm și suntem pe 8 biți



# COMPLEMENT FAȚĂ DE DOI, EX 7

bit $b_i$ :	1	1	1	1	0	0	0	1
$2^i$ :	$-2^7$	$2^6$	$2^5$	$2^4$	$2^3$	$2^2$	$2^1$	$2^0$

- $$x = -b_{N-1}2^{N-1} + \sum_{i=0}^{N-2} b_i 2^i$$
- ca să reprezentăm un număr negativ, luăm valoarea pozitivă a numărului, îi inversăm biții și adunăm unu
- de ce funcționează această procedură?
  - pornim de la faptul că folosim aritmetică modulo
  - fixăm și suntem pe 8 biți
  - deci, să scădem 3 e echivalent cu a aduna  $256 - 3 = 253$
  - $-3 \equiv 256 - 3 =$

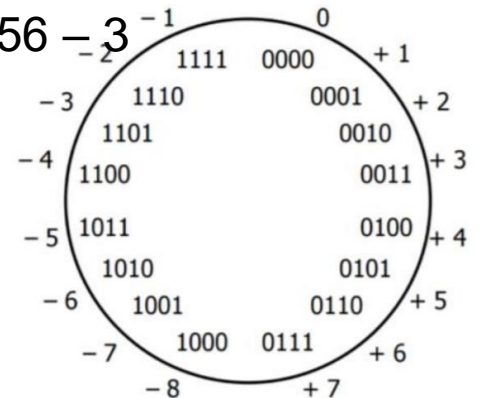




# COMPLEMENT FAȚĂ DE DOI, EX 7

bit $b_i$ :	1	1	1	1	0	0	0	1
$2^i$ :	$-2^7$	$2^6$	$2^5$	$2^4$	$2^3$	$2^2$	$2^1$	$2^0$

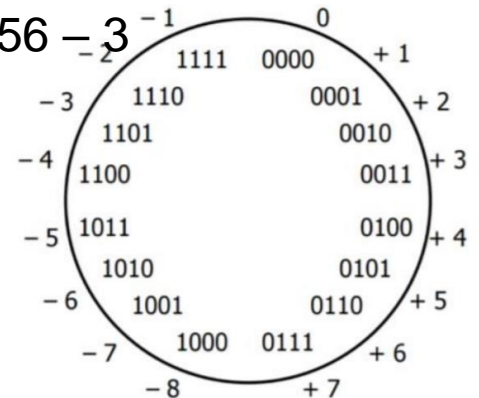
- $$x = -b_{N-1}2^{N-1} + \sum_{i=0}^{N-2} b_i 2^i$$
- ca să reprezentăm un număr negativ, luăm valoarea pozitivă a numărului, îi inversăm biții și adunăm unu
- de ce funcționează această procedură?
  - pornim de la faptul că folosim aritmetică modulo
  - fixăm și suntem pe 8 biți
  - deci, să scădem 3 e echivalent cu a aduna  $256 - 3 = 253$
  - $-3 \equiv 256 - 3 = 1\ 0000\ 0000 - 0000\ 0011$



# COMPLEMENT FAȚĂ DE DOI, EX 7

bit $b_i$ :	1	1	1	1	0	0	0	1
$2^i$ :	$-2^7$	$2^6$	$2^5$	$2^4$	$2^3$	$2^2$	$2^1$	$2^0$

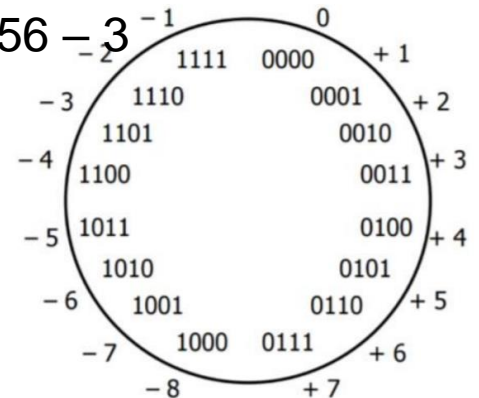
- $$x = -b_{N-1}2^{N-1} + \sum_{i=0}^{N-2} b_i 2^i$$
- ca să reprezentăm un număr negativ, luăm valoarea pozitivă a numărului, îi inversăm biții și adunăm unu
- de ce funcționează această procedură?
  - pornim de la faptul că folosim aritmetică modulo
  - fixăm și suntem pe 8 biți
  - deci, să scădem 3 e echivalent cu a aduna  $256 - 3 = 253$
  - $-3 \equiv 256 - 3 = 1\ 0000\ 0000 - 0000\ 0011$   
 $= 1 + 1111\ 1111 - 0000\ 0011$



# COMPLEMENT FAȚĂ DE DOI, EX 7

bit $b_i$ :	1	1	1	1	0	0	0	1
$2^i$ :	$-2^7$	$2^6$	$2^5$	$2^4$	$2^3$	$2^2$	$2^1$	$2^0$

- $$x = -b_{N-1}2^{N-1} + \sum_{i=0}^{N-2} b_i 2^i$$
- ca să reprezentăm un număr negativ, luăm valoarea pozitivă a numărului, îi inversăm biții și adunăm unu
- de ce funcționează această procedură?
  - pornim de la faptul că folosim aritmetică modulo
  - fixăm și suntem pe 8 biți
  - deci, să scădem 3 e echivalent cu a aduna  $256 - 3 = 253$
  - $-3 \equiv 256 - 3 = 1\ 0000\ 0000 - 0000\ 0011$   
 $= 1 + 1111\ 1111 - 0000\ 0011$   
 $= 1 + (3 \text{ cu biții inversați})$

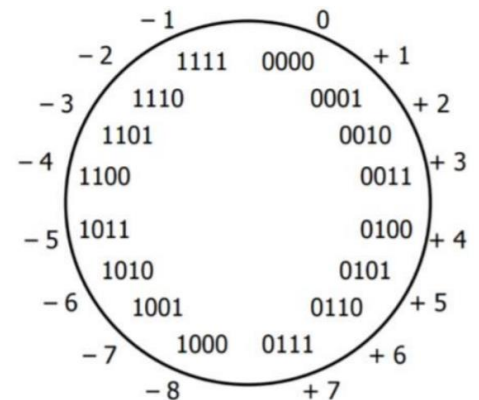


# COMPLEMENT FAȚĂ DE DOI, EX 7

bit $b_i$ :	1	1	1	1	0	0	0	1
$2^i$ :	$-2^7$	$2^6$	$2^5$	$2^4$	$2^3$	$2^2$	$2^1$	$2^0$

- $x = -b_{N-1}2^{N-1} + \sum_{i=0}^{N-2} b_i 2^i$
- ca să reprezentăm un număr negativ, luăm valoarea pozitivă a numărului, îi inversăm biții și adunăm unu
- de ce funcționează această procedură?

$$- \left( -2^N + \sum_{i=0}^{N-1} b_i 2^i \right) =$$



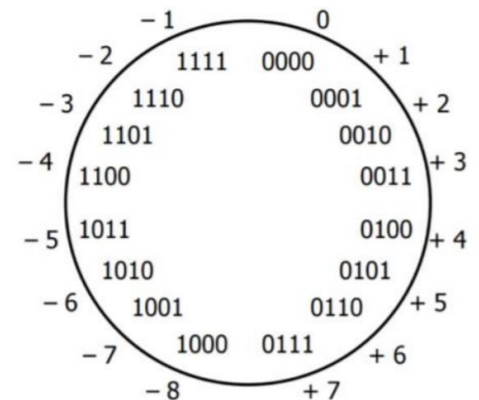
# COMPLEMENT FAȚĂ DE DOI, EX 7

bit $b_i$ :	1	1	1	1	0	0	0	1
$2^i$ :	$-2^7$	$2^6$	$2^5$	$2^4$	$2^3$	$2^2$	$2^1$	$2^0$

- $x = -b_{N-1}2^{N-1} + \sum_{i=0}^{N-2} b_i 2^i$
- ca să reprezentăm un număr negativ, luăm valoarea pozitivă a numărului, îi inversăm biții și adunăm unu
- de ce funcționează această procedură?

$$-\left(-2^N + \sum_{i=0}^{N-1} b_i 2^i\right) =$$

$$2^{N+1} = \sum_{i=0}^N 2^i + 1$$



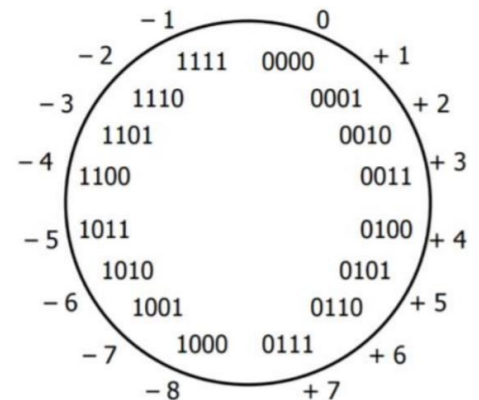
# COMPLEMENT FAȚĂ DE DOI, EX 7

bit $b_i$ :	1	1	1	1	0	0	0	1
$2^i$ :	$-2^7$	$2^6$	$2^5$	$2^4$	$2^3$	$2^2$	$2^1$	$2^0$

- $x = -b_{N-1}2^{N-1} + \sum_{i=0}^{N-2} b_i 2^i$
- ca să reprezentăm un număr negativ, luăm valoarea pozitivă a numărului, îi inversăm biții și adunăm unu
- de ce funcționează această procedură?

$$-\left(-2^N + \sum_{i=0}^{N-1} b_i 2^i\right) = 2^N - \sum_{i=0}^{N-1} b_i 2^i$$

$$2^{N+1} = \sum_{i=0}^N 2^i + 1$$

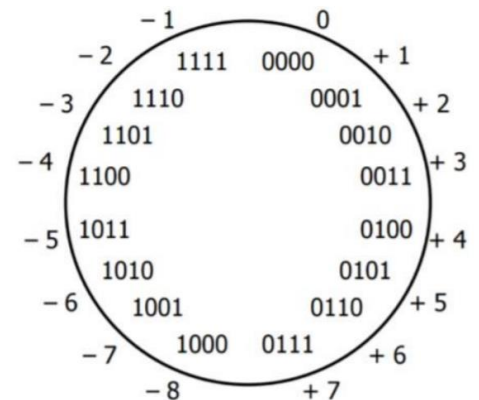


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- de ce funcționează această procedură?

$$\begin{aligned}
 - \left( -2^N + \sum_{i=0}^{N-1} b_i 2^i \right) &= 2^N - \sum_{i=0}^{N-1} b_i 2^i \\
 2^{N+1} = \sum_{i=0}^N 2^i + 1 &= \sum_{i=0}^{N-1} 2^i + 1 - \sum_{i=0}^{N-1} b_i 2^i
 \end{aligned}$$

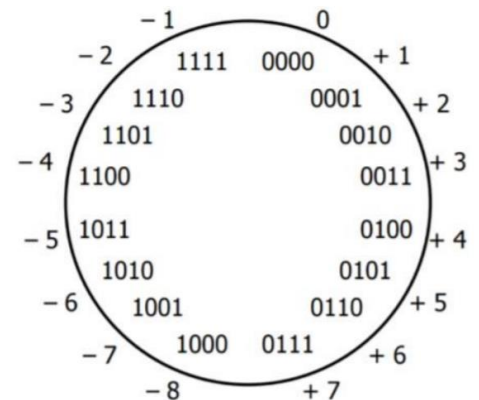


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$$\begin{aligned}
 - \left( -2^N + \sum_{i=0}^{N-1} b_i 2^i \right) &= 2^N - \sum_{i=0}^{N-1} b_i 2^i \\
 2^{N+1} &= \sum_{i=0}^N 2^i + 1 \\
 &= \sum_{i=0}^{N-1} 2^i + 1 - \sum_{i=0}^{N-1} b_i 2^i \\
 &= \sum_{i=0}^{N-1} (1 - b_i) 2^i + 1
 \end{aligned}$$



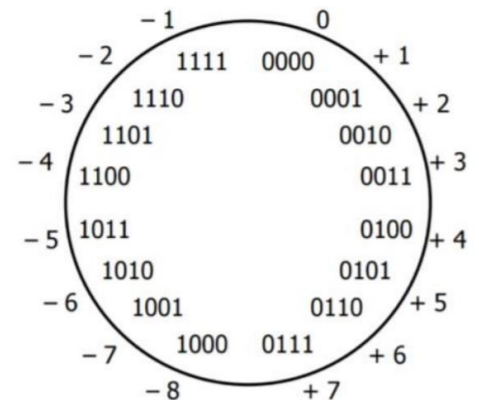


# COMPLEMENT FAȚĂ DE DOI, EX 7

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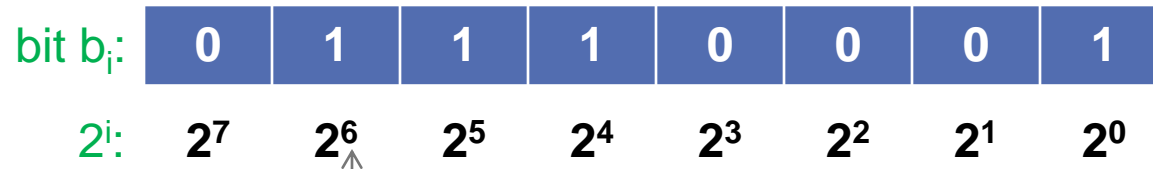
- $x = -b_{N-1}2^{N-1} + \sum_{i=0}^{N-2} b_i 2^i$
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- de ce funcționează această procedură?

$$\begin{aligned}
 - \left( -2^N + \sum_{i=0}^{N-1} b_i 2^i \right) &= 2^N - \sum_{i=0}^{N-1} b_i 2^i \\
 2^{N+1} = \sum_{i=0}^N 2^i + 1 &= \sum_{i=0}^{N-1} 2^i + 1 - \sum_{i=0}^{N-1} b_i 2^i \\
 &= \sum_{i=0}^{N-1} (1 - b_i) 2^i + 1 \\
 &= (\text{inversam bitii}) + 1
 \end{aligned}$$



# LOGARITM ÎNTREG, EX 9

bit $b_i$ :	0	1	1	1	0	0	0	1
$2^i$ :	$2^7$	$2^6$	$2^5$	$2^4$	$2^3$	$2^2$	$2^1$	$2^0$



- arătați că  $\lfloor \log_2 x \rfloor = i_{\max}$
- pornim de la reprezentarea binară și aplicăm logaritmul

$$x = \sum_{i=0}^{N-1} b_i 2^i$$

$$\log_2 x = \log_2 \left( \sum_{i=0}^{N-1} b_i 2^i \right)$$

# LOGARITM ÎNTREG, EX 9

bit $b_i$ :	0	1	1	1	0	0	0	1
$2^i$ :	$2^7$	$2^6$	$2^5$	$2^4$	$2^3$	$2^2$	$2^1$	$2^0$

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$$x = \sum_{i=0}^{N-1} b_i 2^i$$

$$\begin{aligned} \log_2 x &= \log_2 \left( \sum_{i=0}^{N-1} b_i 2^i \right) \\ &= \log_2 \left( 2^{i_{\max}} \left( \sum_{i=0}^{N-1} b_i \frac{2^i}{2^{i_{\max}}} \right) \right) \end{aligned}$$

# LOGARITM ÎNTREG, EX 9

bit $b_i$ :	0	1	1	1	0	0	0	1
$2^i$ :	$2^7$	$2^6$	$2^5$	$2^4$	$2^3$	$2^2$	$2^1$	$2^0$

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$$x = \sum_{i=0}^{N-1} b_i 2^i$$

$$\log_2 x = \log_2 \left( \sum_{i=0}^{N-1} b_i 2^i \right)$$

$$= \log_2 \left( 2^{i_{\max}} \left( \sum_{i=0}^{N-1} b_i \frac{2^i}{2^{i_{\max}}} \right) \right)$$

$$= \log_2 2^{i_{\max}} + \log_2 \left( \left( \sum_{i=0}^{N-1} b_i \frac{2^i}{2^{i_{\max}}} \right) \right)$$

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$$= \log_2 \left( 2^{i_{\max}} \left( \sum_{i=0}^{N-1} b_i \frac{2^i}{2^{i_{\max}}} \right) \right)$$

$$= \log_2 2^{i_{\max}} + \log_2 \left( \left( \sum_{i=0}^{N-1} b_i \frac{2^i}{2^{i_{\max}}} \right) \right)$$

$$= i_{\max} + C, \quad C < 1$$

