

2421 red \rightarrow NP

\rightarrow dodaje se jedan red sa
pari, da postane neparna

3	1	0	0	1	1
7	0	1	1	0	0
9	1	1	1	1	1
<hr/>					
	1	1	1	0	

\rightarrow duplo vrtela

BCD P.P

35	0	0	0	1	0	1	0	1		
47	0	0	1	0	0	0	0	1	1	1
29	1	0	0	1	0	1	0	0	1	
<hr/>										
	1	0	1	0	1	0	0	1		

Hammingov red

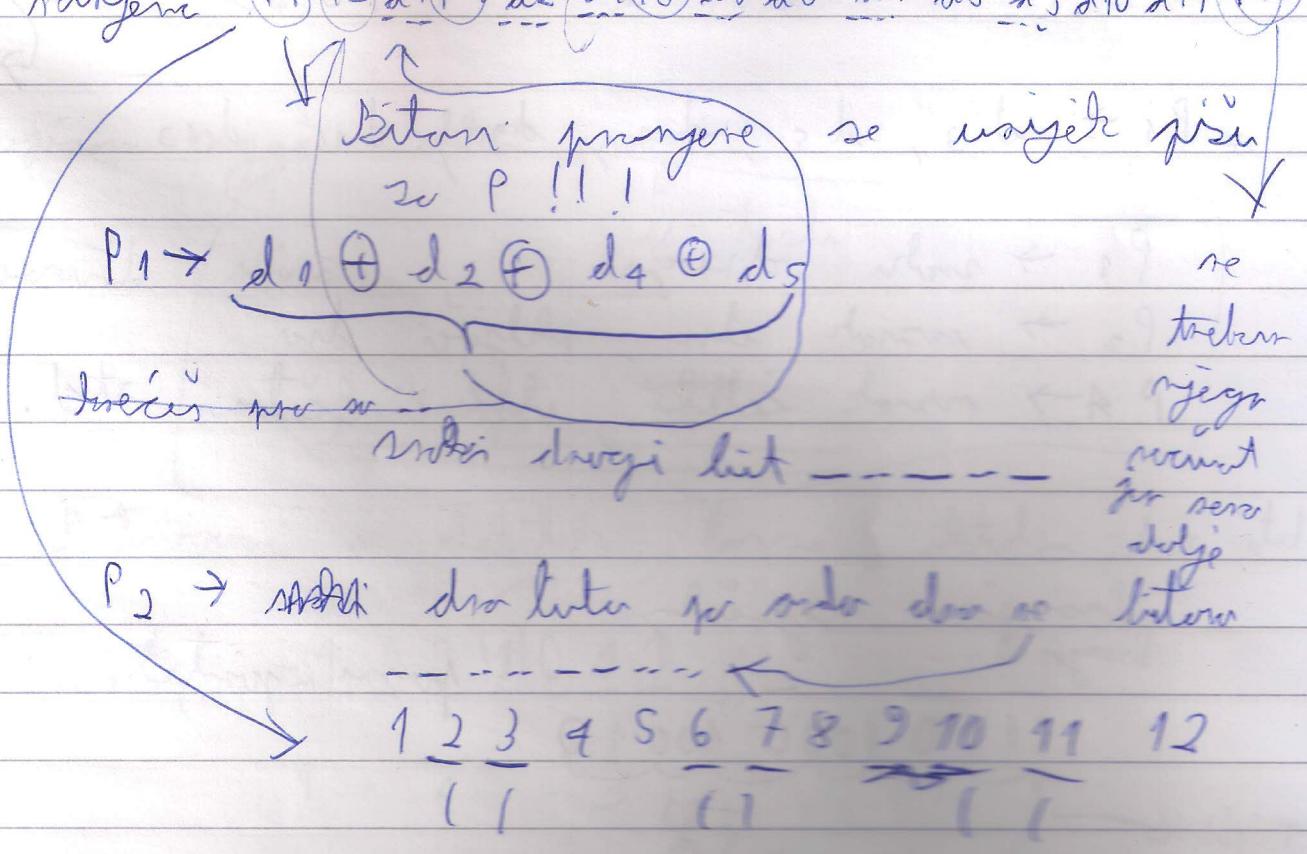
$\oplus \rightarrow$ ili - dva su dve jednako osobe je
paritet 0

Hammingov red ide u tablici
1, 2, 4, 8, 16 - su paritetne bit

Binarni broj od 11 bitova pretvoriti u decimalni u sustavu koji koristi parni brojeve zapisati u Heamunganskoj kodu

011 0110 1001

16 bitova
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
 (P1) (P2) d1 (P4) d2 d3 d4 (P8) d5 d6 d7 d8 d9 d10 d11 (P16)



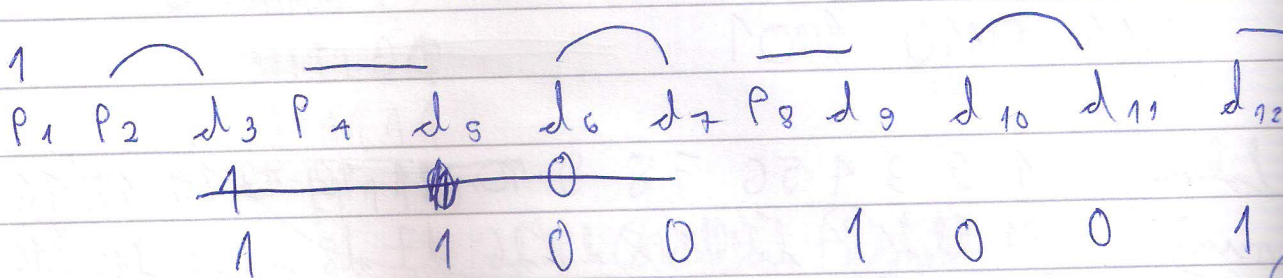
1) 01101101001

P1 P2 d1 P4 d2 d3 d4 P8 d5 d6
 1 1 0 0 0 1 1 0 1 1 ...
 P1 P2 P4 P8
 1 1 0 1 1 0 1 1 0 0 1

~~Bit long vzam~~

info riječ

110010010



P₁ → d₃, d₅, d₇, d₉, d₁₁, d₁₃

P₁ → razli dvoci

P₂ → razli dva, odlični dva

P₄ → razli četini, odlični četini itd.

Pravilan yješni
brzina A.

parni postet

1110100010010

4 jedinica
doble 0
jer je parni
postet

$$C_1 = 0$$

$$C_2 = 0$$

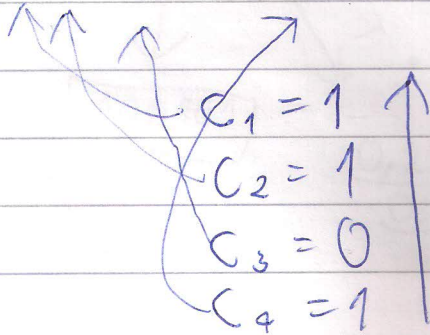
$$C_3 = 0$$

$$C_4 = 0$$

zwei nena pogreške

Primer 2

1110 1000 10110



$(1011)_{(2)} = 11$

dobro spetku je
u 11 listu

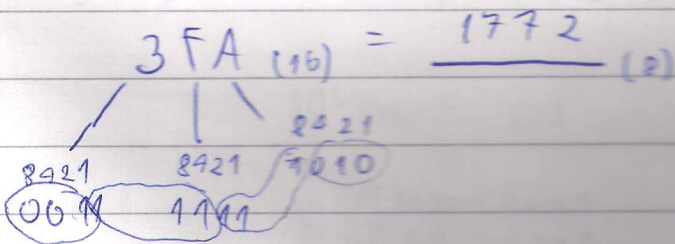
izjasa njei - drugi prazni

zovut njei u testu

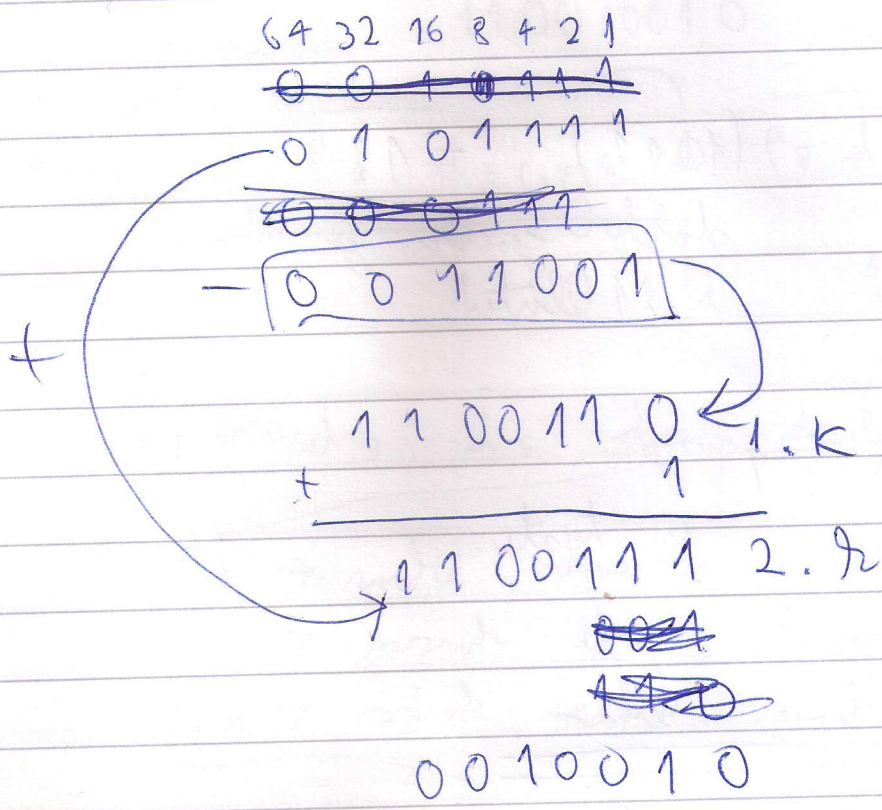
Poravnanje bita

Primerje u decimali, binari, oktalski, hex itd.

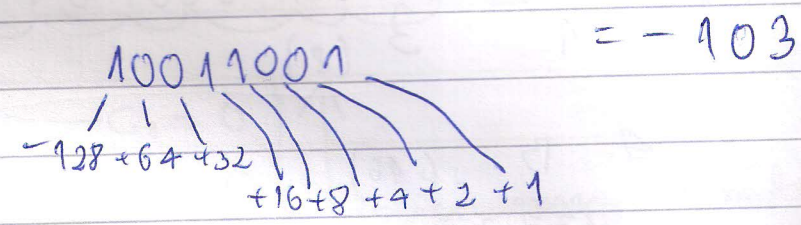
$75_{(10)} = \underline{1001011}_{(2)}$
 1 1 3 (8)
 4 B (16)



47 Metoda drugog komplemente odnosi
 -29 broj

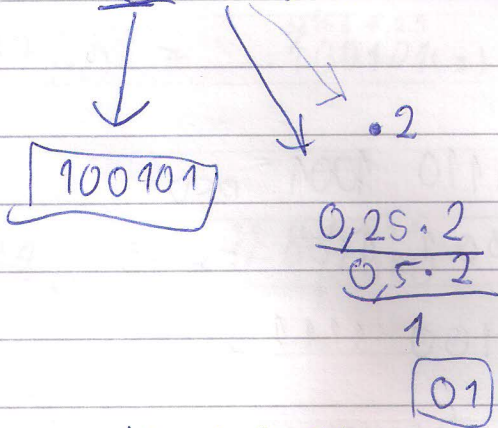


Binarna konverzija zapisan je metodom
 u kojoj se (128) manjdnost radi



IEEE 754 standard

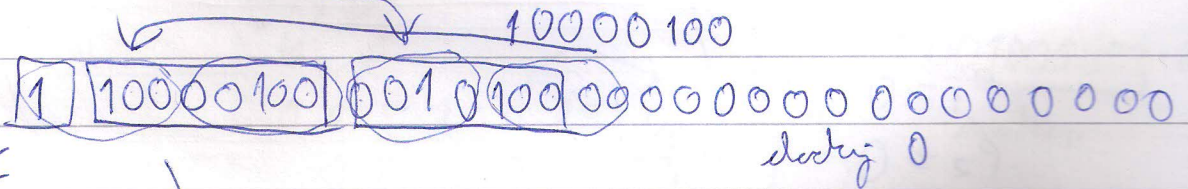
$-37.25_{(10)} = \text{u IEEE}$



100101,01

1,0010100 · 2⁵
mantisa

Karakteristika 127 + 5 = 132
 unjeh dociješ 127



arite
 broj $-$

C 2 15 0000
 u hex

Broj -105 prikazati metodom 1. komplementa

$105_{(10)} = (2)$ opretno prikazati $-105 = 105$

105 (10) = 1101010101

1-komplement: 10010110101

He i 2. komplement

Broj prikazati

Upravo je to !! u bin

Gre šta smo do sed nãli pisemo in
delimo !!!

Kuderenti:

$$169_{(10)} = 0001 \ 0110 \ 1001 \ 000$$

$$0100 \ 1001 \ 1100 \ K_2-3$$

$$0001 \ 1100 \ 1111 \ 2421$$

Delactura

$$1001 / 0100 / 0001_{BCD} = 61_{(10)} \quad \boxed{61}$$

Bitani pranje

1100101

$P_1 \ P_2 \ 1 \ P_4 \ 100 \ P_8 \ 101$

$$P_1 = 0$$

$$P_2 = 0$$

$$P_4 = 1$$

$$P_8 = 0$$

0011100101

Novã yridu n Kaming

00111010101

$$\begin{cases} C_1 = 1 \\ C_2 = 1 \\ C_3 = 1 \\ C_4 = 0 \end{cases}$$

0111 = 7 lãt yridu
Kajisi lãca nãkãvã
(nãrã nãkãvã nã P-
P₁ P₂ P₄ P₈ ...)

Výška v lba

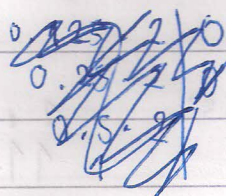
$$37_{(10)} = \begin{matrix} 32 & 16 & 8 & 4 & 2 & 1 \\ 1 & 0 & 0 & 1 & 0 & 1 \end{matrix} (2) \quad 6F_{(16)} = \begin{matrix} 4 & 2 & 1 & 0 & 1 & 1 & 1 & 1 \\ 0 & 1 & 1 & 0 & 1 & 1 & 1 & 1 \end{matrix} = 1111_{(10)}$$

$$48_{(10)} = \begin{matrix} 32 & 16 & 8 & 4 & 2 & 1 \\ 0 & 0 & 1 & 1 & 0 & 0 & 0 & 0 \end{matrix} = 30_{(16)}$$

$$137_{(10)} = \begin{matrix} 128 & 64 & 32 & 16 & 8 & 4 & 2 & 1 \\ 1 & 0 & 0 & 0 & 1 & 0 & 0 & 1 \end{matrix} = 211_{(8)} \quad 716_{(8)} = 111001110_{(10)} = 1CE_{(16)}$$

73.125 u IEEE-754

$$\begin{matrix} 64 & 32 & 16 & 8 & 4 & 2 & 1 \\ 1 & 0 & 0 & 1 & 0 & 0 & 1 \end{matrix}$$

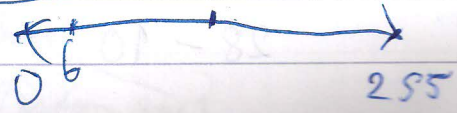


$$\begin{aligned} 0.125 \cdot 2 &= 0.25 \quad 0 \\ 0.25 \cdot 2 &= 0.5 \quad 0 \\ 0.5 \cdot 2 &= 1 \quad 1 \end{aligned}$$

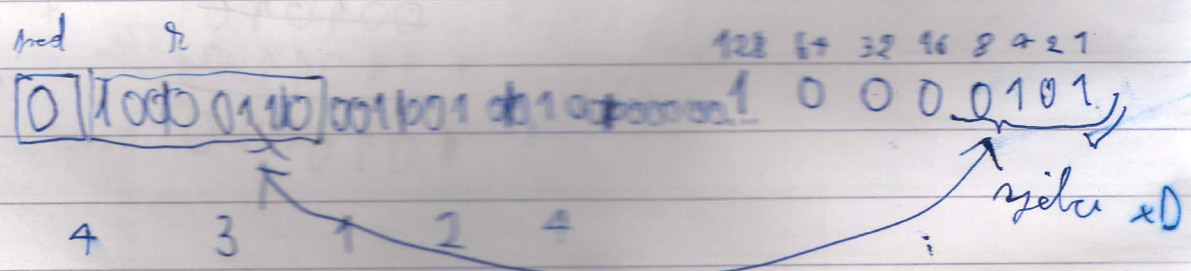
$$1001001.001$$

$$1.001001001 \cdot 2^6$$

mantissa



$$6 + 127 = 133$$



$$-37.25_{(10)} \rightarrow \begin{array}{l} 0.25 \cdot 2 = 0.5 \quad | \quad 0 \\ 0.5 \cdot 2 = 1 \quad | \quad 1 \end{array}$$

$$\begin{array}{r} 32 \ 16 \ 8 \ 4 \ 2 \ 1 \\ 1 \ 0 \ 0 \ 1 \ 0 \ 1 \ 0 \ 1 \end{array}$$

$$1.0010101 \cdot 2^5$$

$$127 + 5 = 132$$

$$\begin{array}{r} 128 \ 64 \ 32 \ 16 \ 8 \ 4 \ 2 \ 1 \\ 1 \ 0 \ 0 \ 0 \ 0 \ 1 \ 0 \ 0 \end{array}$$

$$\boxed{1} \boxed{10000100} \boxed{0010101}$$

$$\in 2150060$$

$$43 + 8_{(10)} \quad (2) + (3)$$

$$\begin{array}{r} 32 \ 16 \ 8 \ 4 \ 2 \ 1 \\ 1 \ 0 \ 1 \ 0 \ 1 \ 1 \\ + 0 \ 0 \ 1 \ 0 \ 0 \ 0 \\ \hline 1 \ 1 \ 0 \ 0 \ 1 \ 1 \end{array}$$

$$\begin{array}{r} 1 \ 1 \ 1 \ 1 \ 1 \ 1 \\ 1 \ 1 \ 0 \ 1 \ 1 \ 0 \ 1 \\ + 1 \ 1 \ 1 \ 1 \ 0 \ 0 \ 1 \\ \hline 1 \ 1 \ 1 \ 0 \ 0 \ 1 \ 1 \ 0 \end{array}$$

$$28 - 10$$

$$\begin{array}{r} 32 \ 16 \ 8 \ 4 \ 2 \ 1 \\ 0 \ 1 \ 1 \ 1 \ 0 \ 0 \\ \hline 0 \ 0 \ 1 \ 0 \ 1 \ 0 \\ + 1 \ 1 \ 0 \ 1 \ 1 \ 0 \\ \hline 1 \ 0 \ 1 \ 0 \ 0 \ 1 \ 0 \end{array}$$

$$\begin{array}{r} 0 \ 0 \ 1 \ 0 \\ 1 \ 1 \ 0 \ 1 \\ + \\ 1 \ 1 \ 0 \end{array}$$

152 - 39

MSB	128	64	32	16	8	4	2	1
0	1	0	0	1	1	0	10	
0	0	0	1	0	0	1	1	1
1	1	1	0	1	1	0	0	1
	0	1	1	1	0	0	1	1
	0	1	1	1	0	0	1	1
	0	1	1	1	0	0	1	1

000100111
 111011000
 1
 111011001

Prinjeri rezultu
 su pres

1.

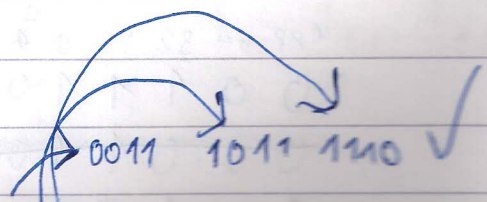
~~0110101010~~

3 5 A
 1 5 3 2

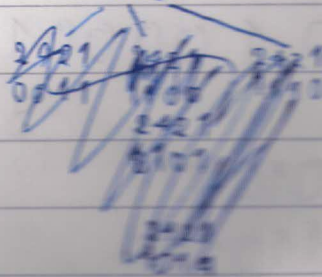
2.

358

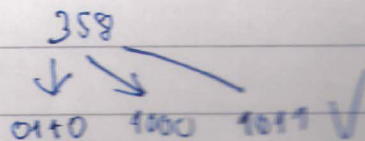
a) 2721



~~358~~ 358



2) Ex-3



3.

-53

$$\begin{array}{r}
 128\ 64\ 32\ 16\ 8\ 4\ 2\ 1 \\
 0\ 0\ 1\ 1\ 0\ 1\ 0\ 1 \\
 1\ 1\ 0\ 0\ 1\ 0\ 1\ 0 \\
 + \\
 \hline
 1\ 1\ 0\ 0\ 1\ 0\ 1\ 1
 \end{array}$$

$$4. \quad \underline{60} \underline{64} \text{ (8)} = \underline{C34} \text{ (16)}$$

$\begin{array}{cc} | & | \\ 110 & 100 \\ \hline \end{array}$
 $\begin{array}{cc} | & | \\ \textcircled{1100} & 0011 \\ \hline \end{array}$

5.

$$\begin{array}{r}
 128\ 64\ 32\ 16\ 8\ 4\ 2\ 1 \\
 0\ 0\ 1\ 1\ 0\ 0\ 0\ 1 \\
 1\ 1\ 0\ 0\ 1\ 1\ 1\ 0
 \end{array}$$

6.

57 - 24

$$\begin{array}{r}
 128\ 64\ 32\ 16\ 8\ 4\ 2\ 1 \\
 0\ 0\ 1\ 1\ 1\ 0\ 0\ 1 \\
 \del{0\ 0\ 0\ 1\ 1\ 0\ 0\ 0} \\
 + 1\ 1\ 1\ 0\ 1\ 0\ 0\ 0 \\
 \hline
 0\ 0\ 1\ 0\ 0\ 0\ 0\ 1
 \end{array}$$

$$\begin{array}{r}
 1\ 1\ 1\ 0\ 0\ 1\ 1\ 1 \\
 \\
 \hline
 1\ 1\ 1\ 0\ 1\ 0\ 0\ 0
 \end{array}$$

7.

$$a) \quad \underline{00101111}$$

$$b) \quad \underline{01101000}$$

8.

8.

$$\begin{array}{r}
 06011 \quad 0110 \\
 01010 \quad 1100 \\
 \hline
 1101 \\
 \cancel{1101} \\
 1001 \quad 1010
 \end{array}$$

radi Hammingov kód sjedite:

9.

a) 1110101
 1010111

P_1	P_2	I_3	P_4	I_5	I_6	I_7	P_8	I_9	I_{10}	I_{11}	I_{12}	I_{13}	I_{14}	I_{15}	P_{16}
0	1	1	1	0	1	0	1	1	1						
0	1	1	1	0	1	0		1	1	1					
1	1	1													
1	0	1	1	0	1	0	1	1	1	1	0	0	0	0	0
P_1	P_2	I_3	P_4	I_5	I_6	I_7	P_8	I_9	I_{10}	I_{11}	I_{12}	I_{13}			
1	0	1	1	0	1	0	1	1	1	1					