

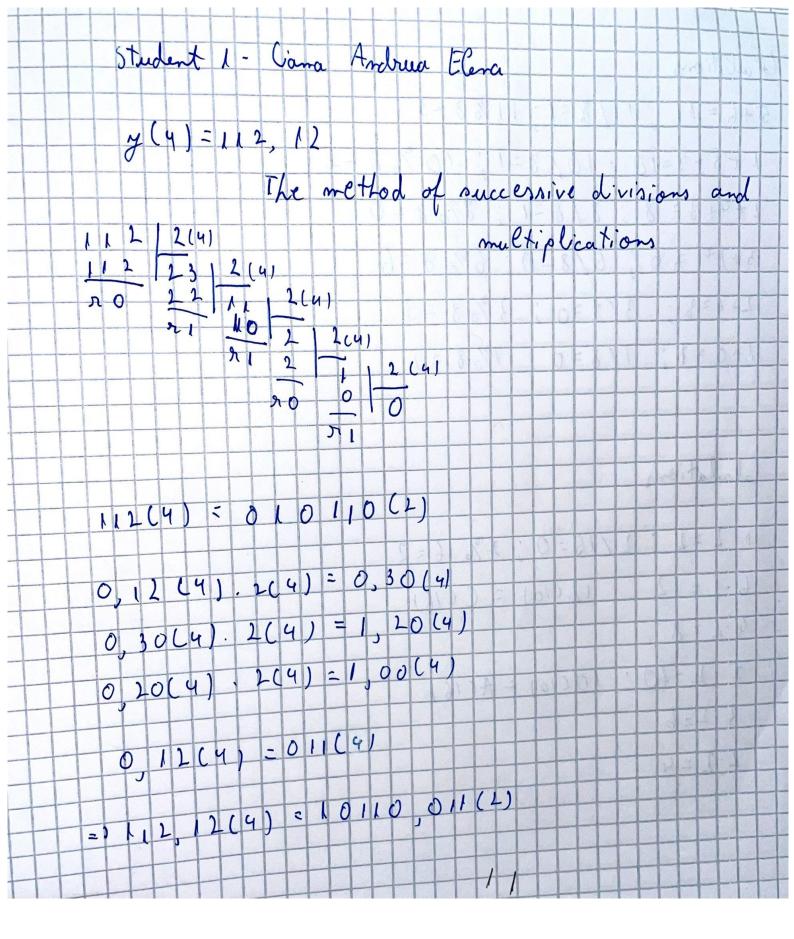
Colarlation 5+6=11:11/8=1:11%8-3 1+5+4=10:10/8=1;10%8=2 1+4+3=8;8/8=1;8%8=0 3+2+1=6; 6/8=0; 6% 8=6 2+1=3; 3/8=0; 3%8=3 1+0=1; 1/8=0; 1%8=1 1=2 7=135461 Z(b2) = {(b2) = 235461(16) +2(16) 235461(16)* 2 (16) =) p(b2) = 46A8C2(16) 46 A 8 C 2

(alaulations 2/16=0;2%16=2 1 2 = 2 ; 12(10) = ((16) 6.2=12 4.2 = 8, 5-1=10: 10(10) = A(16) 3.2=6 2.2=4 · Cibotariu Amdrei D: 136023(0) Y: 12345(8) x: 123456(8) X = 123456 (8) Y = 12345 (8) So s-y=x=) The calculus is 1 = 136023 (1) correct! P: P = 46 A8C2 (16) = P= 46 A 8 C 2 (16) = 235461(16) = = P= 2 (16) 2 = 235461(16) So p: P= 2 =) The calculus is correct!

P = 46 A 8C 2 (16) P = 46 A 8C 2 (16) P = 2

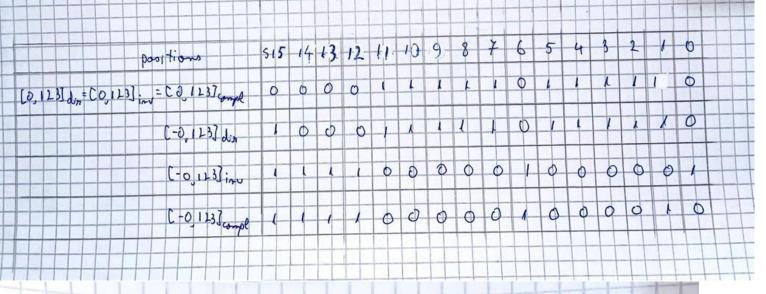
Subject 2: conversions of real numbers choosing the appropriate methods · Student 2: (Cibotarius Andrei) - chooses 6 (source base) and h (distinction base) such that 6, h = 10 and 6 < h - chooses the initial real number x(6) having 5 digits at the integer part and 3 digits at the fractional part - converts x (b) into base ho with a precision of 3 digits, oblaining Y(h) · Student 1: - receives Y(n) from Student 2 and converts Y(n) into base b, with a precision of 3 digits to verify the correctness of the result obtained by Student 2 - Don't use sapid conversions! - Don't use base 10 as an intermediate base

· Cibotarin Amdrei
b=2, h=4
X(2) = 10110,011(2)
We will convert x (2) to y (4) using the Substitution
CINCA NO.
a) First, we convert all digits from X(2) to the disti-
mation base 4:
1(2) = 1(4) 0(2) = 0(4)
b) After that, base 2 is converted into base 4:
2 = 2(4)
c) In the end, we calculate in base 4 the result:
Y(4) = 2(4) + 2(4) + 2(4) + 2(4) + 2(4) =
= 10(4) + 10(4) + 2(4) + 0,2(4)/2(4) + 0,2(4)/10(4) =
=100(11)+10(11)+2(11)+0(1(11)+0,02(11)=
=112,12(4)
So X(2) = 10110,011(2) = 112, 12(4) = Y(4)
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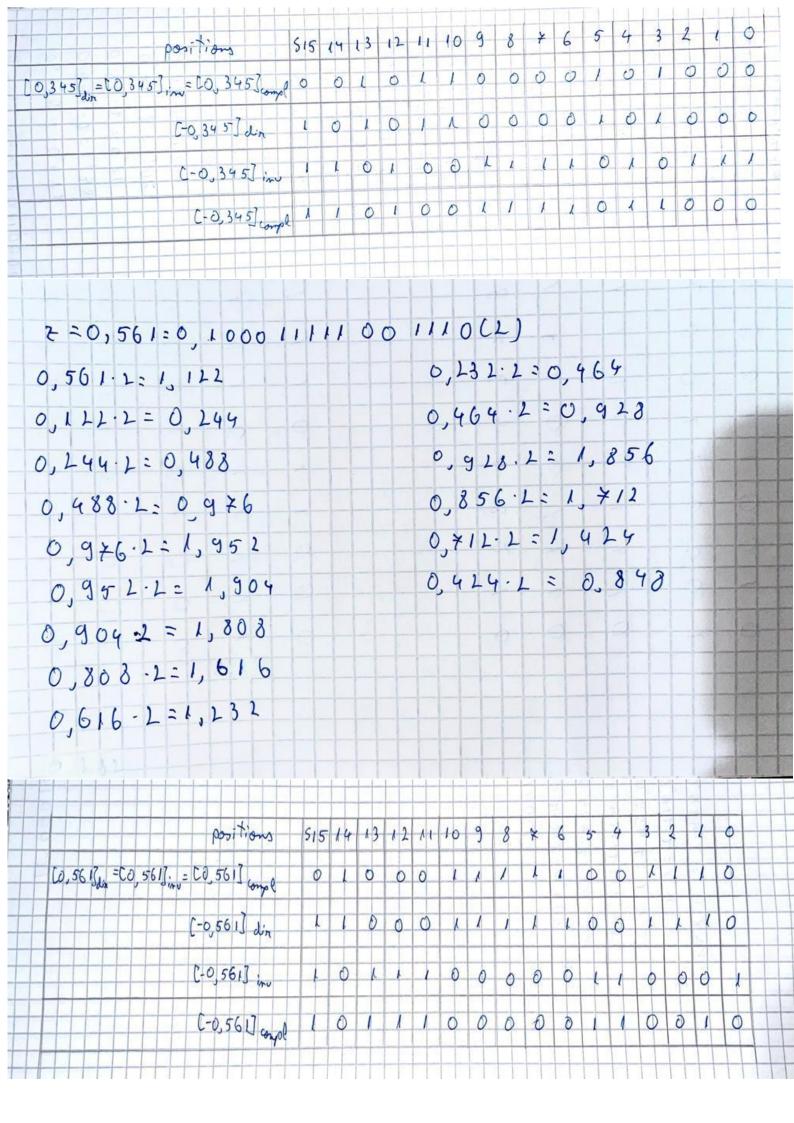


Subject 3: representations Option 2: addition and substantion of subunitary numbers in complementary code · Student 1 Ochoose three subunitary positive decimal numbers Cat least 3 digits at the fractional part): 4, 4, 7, such that x 4 y 4 2. O represents in direct, invers an complementary cades on lo bits, x, - x, y, -y, 2, -7 · Student 2 oxeceives from Student 1: [+] compl. [-+] compl. [y] compl [-y] compl, [7] compl, [-7] compl o performs in complementary code the following operations: [++y] comple C+-y comple, C2-x] comple, C-2-x Jeomple o from the complementary codes obtained in the previous step calculates the corresponding decimal values

Student 1 - Coma Andrea Elena Y = 0, 113 4=0,345 2 = 0,561 ~= 16 5its X=0,123=0,000 111110 111100(2) 0,123.2=0,246 0,246.1:0,492 0,492.2=0,984 0,984.2=1,968 0,968.2=1,936 0, 936 . 2 = 1, 8 72 0. 872.2 = 1,744 0, 744.2= 1,488 0,488.2=0,976 0,976.2=1,952 0,952.2=1,904 0,904.2=1,808 0,808.2 = 1,616 0,616.2=1,232 0, 232.2 = 0, 464 0,464.1= 0,928



y=0,345=0,010110000101000C2) 0,345.1=0,691 0,691.2=1,38 0,38.2=0,26 0, 76 . 2 = 1, 52 0,52.2:1,04 0,04.2=0,08 0,08.2:0,16 0 16 2 = 0 32 0,32. 2: 0,64 0,64. L= 1,28 0, 10.2=0,56 0,56.2=1,12 0,12.2=0,24 0, 24.2=0,48 0,48.2=0,96



Student 2 - Cibotariu Andrei
· [x+y] compt. = [x] compt. @ [y] compt.
TX7 115.
[7] compl. 0000 1111 1011 1110 @
[10011 1011 1110 0110 OK (9usult 1)
Since the result is positive, we can compute its value in bar 10 right away:
911 = 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2
= 0,46795654296875 (10)
[x-y] compt = [x] compt. () [-y] compt.
[x]compl. 0000 1111 1011 11100
[Y] compl. 1101001111011000 OK (result 2)
Since the result is negative, we have to compute its
complement in order to determine its value in bose 10.
111000111001010
$n_2 = -\left(2^{\frac{-3}{2}} + 2^{\frac{-4}{2}} + 2^{\frac{-5}{2}} + 2^{\frac{-10}{2}} + 2^{\frac{-12}{2}} + 2^{\frac{-14}{2}}\right) =$
= -0,22198486328125 (10)
[2-x] compl. = [2] compl. + [-x] compl.
[2-x] compl. = [2] compl. + [-x] compl. [2] compl. 6,0000,11,100,1100 [-x] compl. 1111,00000,1000010 [-x] compl. 1111,00000,00000000000000000000000000
1-x comple 11/11 0000000000 OK (number 3)

Since the result is positive, we can compute its value in base 10 right away: [-2-x]compl. = [-2]compl. + [-x]compl. [-2] compl. 1011 1000 0011 0010 @ [-x]compt. 11110000001000010 +1010 1000 0111 0100 JOK (result 4) Since the result is negative, we have to compute ito complement in order to determine its value in base 10. 1010 1000 0111 0100 霉 01010111110001100 $R4 = -(2^{-1}+2^{-3}+2^{-1}+2^{-6}+2^{-7}+2^{-8}+2^{-12}+2^{-13}) =$ = -0,6839599609375 1101 We could diturnine the sign of each number by looking at the origin bit (the most summificative bit): 0 > positive, 1 > magatine (in base 2). To compute the value in base 10 of a negative number represented in base 2, we first calculate its complument (using the method "Two's complement"). After that, we calculate its value and, in the end, negati it.