

1:

a)

Java, pertence hoje à Oracle.

Applescript, desenvolvida pela Apple.

C Sharp, ou C#, desenvolvida pela Microsoft.

Cobra, desenvolvida por Cobra Language LLC.

ColdFusion, desenvolvida por Jeremy e JJ Allaire, pertencendo hoje à Adobe.

b)

Bash, desenvolvida por Brian Fox.

Php, desenvolvida por The PHP Group.

Javascript, desenvolvida por Netscape Communications Corporation, Mozilla Foundation.

Asp, desenvolvida pela Microsoft.

Postscript, pertence hoje à Adobe.

### Bibliografia:

<http://en.wikipedia.org/wiki/AppleScript>

[http://en.wikipedia.org/wiki/Bash\\_\(Unix\\_shell\)](http://en.wikipedia.org/wiki/Bash_(Unix_shell))

[http://en.wikipedia.org/wiki/C\\_Sharp\\_\(programming\\_language\)](http://en.wikipedia.org/wiki/C_Sharp_(programming_language))

[http://en.wikipedia.org/wiki/Cobra\\_\(programming\\_language\)](http://en.wikipedia.org/wiki/Cobra_(programming_language))

<http://en.wikipedia.org/wiki/ColdFusion>

<http://en.wikipedia.org/wiki/JavaScript>

[http://en.wikipedia.org/wiki/Active\\_Server\\_Pages](http://en.wikipedia.org/wiki/Active_Server_Pages)

<http://en.wikipedia.org/wiki/PostScript>

2:

a) Intel e AMD.

b)

#### **Intel:**

Intel® Core™ i7-4770T Processor (3.70 Ghz)

Intel® Core™ i7-4765T Processor (3.00 GHz)

Intel® Core™ i5-4670S Processor (3.80 Ghz)

Intel® Core™ i5-4430S Processor (3.20 GHz)

#### **Amd:**

AMD FX 4-Core Black Edition FX-4100 (3.60 Ghz)

AMD FX 4-Core Black Edition FX-4300 (3.80 Ghz)

AMD Athlon™ X4 740 (3.20 Ghz)

AMD Athlon™ X4 750k (3.40 Ghz)

c) Resposta no item anterior.

### Bibliografia:

<http://ark.intel.com>

<http://products.amd.com/pages/DesktopCPUSideBySide.aspx?id=823&id=824&id=812&id=773>

3:

a)  $(1111.0101)_{10} = (?)_2 = (?)_4$

Convertendo para base 2:

$$1111 / 2 = 555 \rightarrow 1$$

$$555 / 2 = 277 \rightarrow 1$$

$$277 / 2 = 138 \rightarrow 1$$

$$138 / 2 = 69 \rightarrow 0$$

$$69 / 2 = 34 \rightarrow 1$$

$$34 / 2 = 17 \rightarrow 0$$

$$17 / 2 = 8 \rightarrow 1$$

$$8 / 2 = 4 \rightarrow 0$$

$$4 / 2 = 2 \rightarrow 0$$

$$2 / 2 = 1 \rightarrow 0$$

$$1 / 2 = 0 \rightarrow 1$$

$$0.0101 * 2 = 0.0202 \rightarrow 0$$

$$0.0202 * 2 = 0.0404 \rightarrow 0$$

$$0.0404 * 2 = 0.0808 \rightarrow 0$$

$$0.0808 * 2 = 0.1616 \rightarrow 0$$

$$0.1616 * 2 = 0.3232 \rightarrow 0$$

$$0.3232 * 2 = 0.6464 \rightarrow 0$$

$$0.6464 * 2 = 1.2928 \rightarrow 1$$

$$0.2928 * 2 = 0.5856 \rightarrow 0$$

$$0.5856 * 2 = 1.1712 \rightarrow 1$$

$$0.1712 * 2 = 0.3424 \rightarrow 0$$

$$0.3424 * 2 = 0.6848 \rightarrow 0$$

$$0.6848 * 2 = 1.3696 \rightarrow 1$$

$$0.3696 * 2 = 0.7392 \rightarrow 0$$

$$0.7392 * 2 = 1.4784 \rightarrow 1$$

$$(1111.0101)_{10} = (10001010111.00000010100101...)_{2}$$

Convertendo para base 4

$$1111 / 4 = 277 \rightarrow 3$$

$$277 / 4 = 69 \rightarrow 1$$

$$69 / 4 = 17 \rightarrow 1$$

$$17 / 4 = 4 \rightarrow 1$$

$$4 / 4 = 1 \rightarrow 0$$

$$1 / 4 = 0 \rightarrow 1$$

Convertendo para base 4

$$0.0101 * 4 = 0.0404 \rightarrow 0$$

$$0.0404 * 4 = 0.1616 \rightarrow 0$$

$$0.1616 * 4 = 0.6464 \rightarrow 0$$

$$0.6464 * 4 = 2.5856 \rightarrow 2$$

$$0.5856 * 4 = 2.3424 \rightarrow 2$$

$$0.3424 * 4 = 1.3696 \rightarrow 1$$

$$0.3696 * 4 = 1.4784 \rightarrow 1$$

$$(1111.0101)_{10} = (101113.0002211132...)_{4}$$

b)  $(7785366.0757)_9 = (?)_{3}$

Convertendo para base 10

$$7*9^6 + 7*9^5 + 8*9^4 + 5*9^3 + 3*9^2 + 6*9^1 + 6*9^0 \\ + 0*9^{-1} + 7*9^{-2} + 5*9^{-3} + 7*9^{-4}$$

$$3720087 + 413343 + 52488 + 3645 + 243 + 54 + 6 \\ + 0.08641 + 0.00685 + 0.00106 \\ (4189866.09434)_{10}$$

Convertendo para base 3

$$4189866 / 3 = 1396622 \rightarrow 0 \\ 1396622 / 3 = 465540 \rightarrow 2 \\ 465540 / 3 = 155180 \rightarrow 0 \\ 155180 / 3 = 51726 \rightarrow 2 \\ 51726 / 3 = 17242 \rightarrow 0 \\ 17242 / 3 = 5747 \rightarrow 1 \\ 5747 / 3 = 1915 \rightarrow 2 \\ 1915 / 3 = 638 \rightarrow 1 \\ 638 / 3 = 212 \rightarrow 2 \\ 212 / 3 = 70 \rightarrow 2 \\ 70 / 3 = 23 \rightarrow 1 \\ 23 / 3 = 7 \rightarrow 2 \\ 7 / 3 = 2 \rightarrow 1 \\ 2 / 3 = 0 \rightarrow 2$$

Convertendo para base 3

$$0.09434 * 3 = 0.28303 \rightarrow 0 \\ 0.28303 * 3 = 0.84910 \rightarrow 0 \\ 0.84910 * 3 = 2.54732 \rightarrow 2 \\ 0.54732 * 3 = 1.64197 \rightarrow 1 \\ 0.64197 * 3 = 1.92593 \rightarrow 1 \\ (7785366.0757)_9 = (21212212102020.00211...)_{3}$$

$$c)(5756205)_8 = (?)_6$$

Convertendo para base 10

$$5*8^6 + 7*8^5 + 5*8^4 + 6*8^3 + 2*8^2 + 0*8^1 + 5*8^0 \\ 1310720 + 229376 + 20480 + 3072 + 128 + 5$$

$$(1563781)_{10}$$

Convertendo para base 6

$$1563781 / 6 = 260630 \rightarrow 1 \\ 260630 / 6 = 43438 \rightarrow 2 \\ 43438 / 6 = 7239 \rightarrow 4 \\ 7239 / 6 = 1206 \rightarrow 3 \\ 1206 / 6 = 201 \rightarrow 0 \\ 201 / 6 = 33 \rightarrow 3 \\ 33 / 6 = 5 \rightarrow 3 \\ 5 / 6 = 0 \rightarrow 5$$

$$(5756205)_8 = (53303421)_6$$

$$d)(E9CA59.FCA7)_{16} = (?)_8$$

$$1110\ 1001\ 1100\ 1010\ 0101\ 1001 \cdot 1111\ 1100\ 1010\ 0111 \\ 111\ 010\ 011\ 100\ 101\ 001\ 011\ 001 \cdot 111\ 111\ 001\ 010\ 011\ 100 \\ (72345131.771234)_8$$

$$e)(320320103.233302)_4 = ( ? )_8$$

$$\begin{array}{r} 11\ 10\ 00\ 11\ 10\ 00\ 01\ 00\ 11\ .\ 10\ 11\ 11\ 11\ 00\ 10 \\ 111\ 000\ 111\ 000\ 010\ 011\ .\ 101\ 111\ 110\ 010 \\ (707023.5762)_8 \end{array}$$

4:

$$a)(AEF7D.C9B)_{16} + (9CCD.ED8)_{16}$$

$$AEF7D.C9B$$

$$+09CCD.ED8$$

$$10\ 23\ 27\ 19\ 26\ .\ 26\ 13\ 19$$

$$11\ 8\ 12\ 4\ 11\ .\ 10\ 14\ 3$$

$$(B8C4B.AD3)_{16}$$

$$b)(775635.7625)_8 + (766701.5244)_8$$

$$775635.7625$$

$$+766701.5244$$

$$(1764537.4071)_8$$

$$c)(1101E0.0A)_{16} - (FCDAC.AEB)_{16}$$

$$1\ 1\ 0\ 1\ E\ 0\ .\ 0\ A\ 0$$

$$- F\ C\ D\ A\ C\ .\ A\ E\ B$$

$$(3433.695)_{16}$$

$$d)(10010110011.101)_2 + (1011011101.1001)_2$$

$$10010110011.1010$$

$$+ 1011011101.1001$$

$$(11110010001.0011)_2$$

$$e)(101001100.1001)_2 - (10111001.11001)_2$$

0 2 0 1 2 0 1 1 2    0 2    0 2

1 0 1 0 0 1 1 0 0 . 1 0 0 1 0

- 1 0 1 1 1 0 0 1 . 1 1 0 0 1

1 0 0 1 0 0 1 1 . 1 1 0 0 1

$$(10010011.11001)_2$$