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Sem 15%   10 dacă nr. de activ. $\geq$ [nr. mediu]

ponderat: $\dfrac{nr.\ de\ activ}{[nr\ med.]} * 10$

Operații aritmetice de bază

Adunarea

Ex.:
$$2074_{(10)} +$$
$$352_{(10)}$$
$$\overline{2426_{(10)}}$$

$4+2=6$

$7+5=12, \quad 12/10 = 1 \text{ rest } 2$

$1+0+3=4, \quad 4/10 = 0 \text{ rest } 4$

$(0+2+0)/10 = 0 \text{ rest } 2$

$$a_n \, a_{m-1} \dots a_1 \, a_{0 \, (p)} +$$
$$b_m \, b_{m-1} \dots b_1 \, b_{0 \, (p)}$$
$$\overline{c_k \, c_{k-1} \dots c_1 \, c_{0 \, (p)}}$$

$i = \overline{0, k}, \quad k = max(n, m) + 1, \text{ dacă } t_{max(m, n)+1} \neq 0$

$t_0 = 0$

$$\left(a_i + b_i + t_i \right) / p = t_{i+1} \text{ rest } c_i$$

$$100110_{(2)} +$$
$$111011_{(2)}$$
$$\overline{1100001_{(2)}}$$

$$9994_{(10)} +$$
$$A9B3_{(16)}$$
$$\overline{14347_{(16)}}$$

$$12302_{(4)} +$$
$$30312_{(4)}$$
$$\overline{103220_{(4)}}$$

$A = 10$
$B = 11$
$C = 12$
$D = 13$
$E = 14$
$F = 15$

$\underline{\text{Scăderea}}$

$\underline{\text{Ex}}: \quad \overset{-1\ -1}{2034}_{(10)} -$

$761_{(10)}$

$\overline{1273_{(10)}}$

$4-1=3$

$3-6=-3$

$10+3-6=7$

$10-1+0-7=2$

$2-1=0$

$A \geq B$

$\overline{a_m a_{m-1} \ldots a_1 a_0 (p)}$

$\underline{b_m b_{m-1} \ldots b_1 b_0 (p)}$

$\overline{c_m c_{m-1} \ldots c_1 c_0 (p)}$

$i = \overline{0,m}, \quad t_0 = 0$

$$c_i = \begin{cases} a_i + t_i - b_i, & \text{dacă } a_i + t_i - b_i \geq 0, t_{i+1}=0 \\ p + a_i + t_i - b_i, & \text{altfel}, \; t_{i+1} = -1 \end{cases}$$

$\overset{-1}{1101110}_{(2)} -$

$\underline{100101_{(2)}}$

$1001001_{(2)}$

$93AB1_{(16)} -$

$\underline{498C_{(16)}}$

$8F125_{(16)}$

$C = 12$

$9-12+16$

$11-8-1$

$10-9$

$3-4+16=15$

$\overset{-1\ -1\ -1}{12011}_{(3)} -$

$\underline{1222_{(3)}}$

$10012_{(3)}$

Înmulțirea cu o cifră

$$2304_{(10)} *$$
$$7_{(10)}$$
$$\overline{16128_{(10)}}$$

$(4*7)/10 = 28/10 = 2R8$

$(7*0+2)/10 = 0R2$

$(7*3+0)/10 = 2R1$

$(7*2+2)/10 = 1R6$

$$a_m a_{m-1} \dots a_1 a_0 {(p)} *$$
$$b_{(p)}$$
$$\overline{c_{m+1} c_m \dots c_1 c_0 {(p)}}$$

$i = \overline{0,m}, \quad t_0 = 0$

$(b * a_i + t_i)/p = t_{i+1}$ rest c_i

$c_{m+1} = t_{m+1}$

$$5A23_{(16)} *$$
$$3_{(16)}$$
$$\overline{D0E69_{(16)}}$$

$30 : 16 = 1 R14$

$37 : 16 = 2 R5$

$$1A2_{(13)} *$$
$$4_{(13)}$$
$$\overline{668_{(13)}}$$

$40/13 = 2$ rest 12

$$1A3_{(11)} *$$
$$5_{(11)}$$
$$\overline{974_{(11)}}$$ $55 : 11 = 4R7$

$$6503_{(7)} *$$
$$5_{(7)}$$
$$\overline{45421_{(7)}}$$

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Împărțirea cu o cifră

Ex: $\overrightarrow{24051}_{(10)} : 8_{(10)} = 03006_{(10)} \text{ rest } 3_{(10)}$

$2 \cdot 8 = 0 \text{ rest } 2$

$(2*10+4) : 8 = 3 \text{ rest } 0$

$(0*10+0) : 8 = 0 \text{ r } 0$

$(0*10+5) : 8 = 0 \text{ r } 5$

$(5*10+1) \cdot 8 = 6 \text{ r } 3$

$\overrightarrow{a_m a_{m-1} a_{m-2} \dots a_1 a_0}_{(p)} : b_{(p)} = \overline{c_m c_{m-1} \dots c_1 c_0}_{(p)} \text{ rest } r_{(p)}$

$i = \overline{m, 0}, \quad t_m = 0$

$(t_i * p + a_i) : b = c_i \text{ rest } t_{i-1}$

$r = t_{-1}$

$1AD23 : 4_{(16)} = 06AC8 \; (r \; 3)_{(16)}$

$(0 \cdot 16 + 1) \cdot 4 = 0 \; (r \; 1)$

$(1 \cdot 16 + 10) : 4 =$
$26 : 4 = 6 \; (r \; 2)$

$(2 \cdot 16 + 11) \cdot 4 =$
$43 : 4 = 10 \; (r \; 3)$

$(3 \cdot 16 + 2) \cdot 4 =$
$50 : 4 = 12 \; (r \; 2)$

$(2 \cdot 16 + 3) \cdot 4 =$
$35 : 4 = 8 \; (r \; 3)$

$237_{(8)} : 5_{(8)} = 037_{(8)} \; r \; 4_{(8)}$

$(0*8+2) : 5 = 0 \; r \; 2$

$(2*8+3) : 5 = 3 \; r \; 4$

$(4+8+7) : 5 = 39 : 5 = 7 \; r \; 4$

$424_{(7)} : 6_{(7)} = 050_{(7)} \; r \; 4_{(7)}$

$4 : 6 = 0 \; r \; 4$

$(4*7+2) : 6 = 5 \; r \; 0$

$(0*7+4) : 6 = 0 \; r \; 4$

$324_{(5)} : 2_{(5)} = 134_{(5)} \; r \; 1_{(5)}$

$(1*5+2) : 2 = 7 : 2 = 3 \; r \; 1$

$(1*5+4) : 2 = 9 : 2 = 4 \; r \; 1$