1) A) DEC → BIN

98(10) → 1100010(2)

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

56(10) → 111000(2)

64 32 16 8 4 2 1
1 1 1 0 0 0

31(10) → 011111(2)

32 16 8 4 2 1
0 1 1 1 1 1

32(10) → 100000(2)

32 16 8 4 2 1
1 0 0 0 0 0

2(10) → 10(2)

1000(10) → 1111101000(2)

512 256 128 64 32 16 8 4 2 1
1 1 1 1 1 0 1 0 0 0

111(10) → 1101111(2)

64 32 16 8 4 2 1
1 1 0 1 1 1 1

45(10) → 101101(2)

32 16 8 4 2 1
1 0 1 1 0 1

$14825_{(10)} \rightarrow 11100111101001_{(2)}$

14825 : 2	1
7412 : 2	0
3706 : 2	0
1853 : 2	1
926 : 2	0
463 : 2	1
231 : 2	1
115 : 2	1
57 : 2	1
28 : 2	0
14 : 2	0
7 : 2	1
3 : 2	1
1 : 2	1
0	

B) BIN → DEC

$10_{(2)} \rightarrow 2_{(10)}$

16 8 4 2 1
$11101_{(2)} \rightarrow 29_{(10)}$

8 4 2 1
$1111_{(2)} \rightarrow 15_{(10)}$

16 8 4 2 1
$11110_{(2)} \rightarrow 30_{(10)}$

16 8 4 2 1
$11011_{(2)} \rightarrow 27_{(10)}$

8 4 2 1
$1001_{(2)} \rightarrow 9_{(10)}$

64 32 16 8 4 2 1
$1110111_{(2)} \rightarrow 119_{(10)}$

128 64 32 16 8 4 2 1
$11001100 \rightarrow 204_{(10)}$

512 256 128 64 32 16 8 4 2 1
$1010101010 \rightarrow 682_{(10)}$

c) DEC → HEX

48(10) → 32 16 8 4 2 1 → 110000(2) → 30(16)

156(10) → 128 64 32 16 8 4 2 1 → 10011100(2) → 9C(16)

321(10) → 256 128 64 32 16 8 4 2 1 → 101000001(2) → 141(16)

255(10) → 128 64 32 16 8 4 2 1 → 11111111(2) → FF

1024(10) → 1024 512 256 128 64 32 16 8 4 2 1 → 10000000000(2) → 400(16)

8(10) → 1000(2) → 8(16)

100(10) → 64 32 16 8 4 2 1 → 1100100 → 64(16)

14567(10) → 8 4 2 → 11100011100111 → 38E7(16)

2020(10) → 11111100100 → 7E4

d) HEX → DEC

$A_{(16)} \Rightarrow 10_{(10)}$

$100_{(16)} \Rightarrow 256_{(10)}$

$3E_{(16)} \Rightarrow 62_{(10)}$

$1EA_{(16)} \Rightarrow 256.1 + 14.16 + 10.1 = 490_{(10)}$

$A9C_{(16)} \Rightarrow 256.10 + 16.11 + 1.12 = 2748_{(10)}$

$EF_{(16)} \Rightarrow 14.16 + 15.1 = 239_{(10)}$.

$5B3_{(16)} \Rightarrow 5.256 + 11.16 + 3.1 = 1459_{(10)}$

$14C_{(16)} \Rightarrow 1.256 + 4.16 + 12.1 = 332_{(10)}$

$2A2B_{(16)} \rightarrow 2 \cdot 4096 + 10 \cdot 256 + 2 \cdot 16 + 11 \cdot 1 =$

$= 10795_{(10)}$

HEX → BIN

8 4 2 1

$B_{(16)} \rightarrow 1011_{(2)}$

8 4 2 1

$200_{(16)} \rightarrow 0010\,0000\,0000_{(2)}$

8421 8421

$3E_{(16)} \rightarrow 11\,1110_{(2)}$

8421 8421 8421

$1EA_{(16)} \rightarrow 1\,1110\,1010_{(2)}$

8421

$CAB_{(16)} \rightarrow 1100\,1010\,1011_{(2)}$

$ED_{(16)} \rightarrow 1110\,1101_{(2)}$

$7B3_{(16)} \rightarrow 0111\,1011\,0011_{(2)}$

$24C_{(16)} \rightarrow 0010\,0100\,1100_{(2)}$

$3A2D_{(16)} \rightarrow 0011\,1010\,0010\,1101_{(2)}$

F) BIN → HEX

4 2 1
$110_{(2)} \rightarrow 6_{(16)}$

4 2 1 8 4 2 1
$1100101_{(2)} \rightarrow 65_{(16)}$

2 1 8 4 2 1
$110011_{(10)} \rightarrow 33_{(16)}$

1 8 4 2 1 8 4 2 1
$101110110_{(2)} \rightarrow 176_{(16)}$

8 4 2 1
$1011_{(2)} \rightarrow B_{(16)}$

2 1 8 4 2 1
$111101_{(2)} \rightarrow 3D_{(16)}$

8 4 2 1 8 4 2 1
$11001011_{(2)} \rightarrow CB_{(16)}$

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

$$\overset{2\,1\,8\,4\,2\,1}{101100_{(2)}} \rightarrow 2C_{(16)}$$

$$\overset{2\,1\,8\,4\,2\,1\,8\,4\,2\,1}{1010110010_{(2)}} \rightarrow 2B2$$

G) DEC → OCT

$8_{(10)} \rightarrow 10_{(8)}$

$56_{(10)} \rightarrow \begin{array}{r|l} 56:8 & 0 \\ 7:8 & 7 \end{array} \rightarrow 70_{(8)}$

$31_{(10)} \rightarrow \begin{array}{r|l} 31:8 & 7 \\ 3:8 & 3 \\ 0 & \end{array} \rightarrow 37_{(8)}$

$7_{(10)} \rightarrow 7_{(8)}$

$2_{(10)} \rightarrow 2_{(8)}$

$1000_{(10)} \rightarrow \begin{array}{r|l} 1000:8 & 0 \\ 125:8 & 5 \\ 15:8 & 7 \\ 1:8 & 1 \end{array} \rightarrow 1750_{(8)}$

$111_{(10)} \rightarrow \begin{array}{r|l} 111:8 & 7 \\ 13:8 & 5 \\ 1:8 & 1 \end{array} \rightarrow 157_{(8)}$

(8) $45_{(10)} \rightarrow \begin{array}{r|l} 45:8 & 5 \\ 5:8 & 5 \end{array} \rightarrow 55_{(8)}$

$14825_{(10)} \rightarrow 34751_{(8)}$

4) OCT → DEC

$25_{(8)} \rightarrow (2 \times 8^1) + (5 \times 8^0) = 21_{(10)}$

$10_{(8)} \rightarrow 8_{(10)}$

$24_{(8)} \rightarrow (2 \times 8^1) + (4 \times 8^0) = 20_{(10)}$

$7_{(8)} \rightarrow 7_{(10)}$

$2_{(8)} \rightarrow 2_{(10)}$

$621_{(8)} \rightarrow 6 \cdot 8^{2} + 2 \cdot 8^{1} + 1 = 401_{(10)}$

(9)

$45_{(8)} \rightarrow 4 \cdot 8^1 + 5 \cdot 8^0 = 37_{(10)}$

$34_{(8)} \rightarrow 3 \cdot 8^1 + 4 \cdot 8^0 = 28_{(10)}$

$5423_{(8)} \rightarrow 5 \cdot 8^3 + 4 \cdot 8^2 + 2 \cdot 8^1 + 3 \cdot 8^0 =$

$= 2835_{(10)}$

1) *Запрошена БС → Географическая БС

$4.1 + 4^0 \cdot 5$

$120_{(3)} \rightarrow 1 \cdot 3^2 + 2 \cdot 3^1 + 0 \cdot 3^0 \rightarrow 15_{(10)} \rightarrow 33_{(4)}$

$10_{(3)} \rightarrow 3_{(10)} \rightarrow 3_{(4)}$

$21_{(3)} \rightarrow 7_{(10)} \rightarrow 13_{(4)}$

$2110_{(3)} \rightarrow 66_{(10)} \rightarrow 1002_{(4)}$

$112_{(3)} \rightarrow 14_{(10)} \rightarrow 32_{(4)}$

$111221_{(3)} \rightarrow 376_{(10)} \rightarrow 11320_{(4)}$

$100_{(3)} \rightarrow 9_{(10)} \rightarrow 21_{(7)}$

$110_{(3)} \rightarrow 12_{(10)} \rightarrow 30_{(11)}$

$11001_{(3)} \rightarrow 109_{(10)} \rightarrow 1231_{(4)}$