Digital technology

Numbering systems

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Numbering systems

Calculations with binary numbers, addition

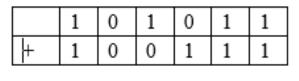- In binary system addition is performed just like in decinal system

- E.g.:   0+0=0, 1+0=1, 1+1=10 (two), 1+1+1=11 (three) ja 1+1+1+1=100 (four)
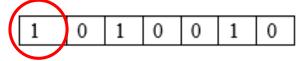
- E.g.: Add numbers $101011_2+100111_2$

Calculation with binary numbers, addition

- If the state for addition is limited, e.g. accu (data storage) in microprocessor
  -> an overflow in addition occurs

- If overflow is to be observed
  - The information on this must be saved somewhere
  - Microprocessor overflow is observed in settling of state ticket.(**CARRY** bit) .

- E.g. reserved state for calculation 6 bits 101011_2 + 100111_2 -> overflow?

	1	0	1	0	1	1
+	1	0	0	1	1	1

1	0	1	0	0	1	0

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Exercises

A=1011_2, B=0101_2, C=1100_2

4. Calculate

a) A+B

b) C+B

c) A+C

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