Perform the appropriate binary arithmetic function for the following binary numbers assuming a 6-bit 2's compliment system.

- Indicate whether or not there is an overflow condition, with brief explanation.
- Also, convert the numbers to decimal to check your results.

Hint: Remember that subtraction is the same as addition of a negative number.

a) $100011 + 010101$

b) $110000 - 000101$

c) $110000 + 010010$

d) $101100 - 001110$