

CS251, Spring 2022

Assignment 2: Question 7

Q7) Add the following pairs of 6-bit two's complement binary numbers, giving a 6-bit result (i.e., throw away the carry-out). Also give the signed decimal value of the 6-bit result (i.e., what is the decimal value of the binary result). Note whether or not an overflow occurred for any addition

$\begin{array}{r} 110\ 001 \\ + 101\ 001 \\ \hline \end{array}$	$\begin{array}{r} 101\ 101 \\ + 110\ 101 \\ \hline \end{array}$
2's comp: $011\ 010$	2's comp: $100\ 010$
decimal: 26	decimal: -30
overflow: Yes	overflow: No
$\begin{array}{r} 001\ 111 \\ + 111\ 000 \\ \hline \end{array}$	$\begin{array}{r} 010\ 101 \\ + 001\ 111 \\ \hline \end{array}$
2's comp: $000\ 111$	2's comp: $100\ 100$
decimal: 7	decimal: -28
overflow: No	overflow: Yes