Due at the beginning of recitation R03 on Friday September 14.

Express the following circuit in Bluespec. Given a 32-bit number \( x \) and a 2-bit number \( s \), this circuit does a logical right shift of \( x \) by \( s \) (\( s \) can be either 0, 1, 2, or 3).

```
function Bit#(32) shift_by_2(Bit#(32) in);
    return {2'b0, in[31:2]};
endfunction

function Bit#(32) shift_by_1(Bit#(32) in);
    return {1'b0, in[31:1]};
endfunction

function Bit#(32) logicalRightShift(Bit#(32) in, Bit#(2) shiftBy);
    Bit#(32) res = in;
    // Do we shift by 2?
    let res1 = (shiftBy[1] == 1)? shift_by_2(res) : res;
    // Do we shift by 1?
    let res2 = (shiftBy[0] == 1)? shift_by_1(res1) : res1;
    return res2;
endfunction
```