

55:AL

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graph TD; A([55:AL]) --> B; B --> C([Leaf_55:AL]);
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56:BL

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    carry_out[0] <= carry_in;  
    z[0] <= XxorY[0] ^ (carry_out[0] & XORsel);  
    carry_out[1] <= XandY[0] | (carry_out[0] | ORsel) & XorY[0];  
    z[1] <= XxorY[1] ^ (carry_out[1] & XORsel);  
    carry_out[2] <= XandY[1] | (carry_out[1] | ORsel) & XorY[1];  
    z[2] <= XxorY[2] ^ (carry_out[2] & XORsel);  
    carry_out[3] <= XandY[2] | (carry_out[2] | ORsel) & XorY[2];  
    z[3] <= XxorY[3] ^ (carry_out[3] & XORsel);  
    carry_out[4] <= XandY[3] | (carry_out[3] | ORsel) & XorY[3];  
    z[4] <= XxorY[4] ^ (carry_out[4] & XORsel);  
    carry_out[5] <= XandY[4] | (carry_out[4] | ORsel) & XorY[4];  
    z[5] <= XxorY[5] ^ (carry_out[5] & XORsel);  
    carry_out[6] <= XandY[5] | (carry_out[5] | ORsel) & XorY[5];  
    z[6] <= XxorY[6] ^ (carry_out[6] & XORsel);  
    carry_out[7] <= XandY[6] | (carry_out[6] | ORsel) & XorY[6];  
    z[7] <= XxorY[7] ^ (carry_out[7] & XORsel);  
    carry_out[8] <= XandY[7] | (carry_out[7] | ORsel) & XorY[7];
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