Show your work and circle your final answer.

1. Choose a maximal set of linearly independent vectors from

$$v_1 = [1, 0, 1, 0, 1], \quad v_2 = [2, 1, 2, 1, 2],$$
$$v_3 = [1, 1, 1, 1, 1], \quad v_4 = [0, 1, 0, 1, 0]$$

2. Use the Gram-Schmidt process to produce an orthonormal set of vectors from

$$v_1 = [1, 0, 1, 0]$$
$$v_2 = [0, 1, 1, 0]$$
$$v_3 = [0, 1, 0, 1]$$