Exercise 1
Which of the following sets of vectors are linearly dependent?
(i) \((-2, 0), (-3, 1)\);
(ii) \((0, 1), (0, 2), (2, 2)\);
(iii) \((-1, 0, 0), (2, 0, 0), (1, 2, 0)\);
(iv) \((0, -1, 1), (2, 1, 0), (2, 1, 1)\);
(v) \((0, 0, 0, 0), (1, 2, 2, 1)\).

Exercise 2
Which of the following sets of vectors are bases for the corresponding space \(\mathbb{R}^n\)? (The dimension \(n\) should be clear from the length of vectors.)
(i) \((1, -1)\);
(ii) \((1, 0), (-1, 1)\);
(iii) \((3, -3), (-1, 1)\);
(iv) \((-1, 1), (2, -2), (1, 1)\);
(v) \((1, 1, 0, 1), (0, 1, 2, 5), (5, 3, 2, 1)\);
(vi) \((1, 1, -1), (0, -1, 0), (1, -2, -1)\).