Exercise 1
Find bases and dimensions for the row, column and null spaces of the matrix:
(i) \((-1 -3)\);
(ii) \((-1 -3)\);
(iii) \(\begin{pmatrix} 1 & -2 \\ -1 & 2 \end{pmatrix}\);
(iv) \(\begin{pmatrix} 1 & 3 & 0 \\ -1 & 2 & 1 \end{pmatrix}\);
(v) \(\begin{pmatrix} 1 & 2 \\ -1 & 2 \\ 2 & 0 \end{pmatrix}\);

Exercise 2
Find the subset of the vectors that forms a basis of their span:
(i) \(\mathbf{u}_1 = (-1, 1, 1), \mathbf{u}_2 = (2, -2, -2)\).
(ii) \(\mathbf{u}_1 = (2, -1, 0), \mathbf{u}_2 = (1, 1, 1), \mathbf{u}_3 = (0, -3, -2)\).