Algebraic Topology   **Exercise Sheet 11**

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Question 1:

Compute $H_*(S^n - X)$ where X is a subspace of S^n homeomorphic to $S^k \sqcup S^t$.

Question 2:

Compute $H_*(S^n - X)$ where X is a subspace of S^n homeomorphic to $S^k \vee S^t$.

Question 3:

Let X be the 1-skeleton of the 4-dimensional simplex (also known as the complete graph on 5 vertices). Show that X cannot be embedded in S^2. *Note: Be careful to make your proof fully rigorous!*