Question 1

Let X be a set and T be the collection of all subsets of X whose complements are finite together with empty set ϕ. Show that T is a topology on X.

Question 2

Let (X, T) be a TS, and $A \subseteq X$, then
(i)$\mathring{A}$=The set of all hose points of A which are not the limit points of A^c
(ii)$(\mathring{A})^c = \overline{(A^c)}$ or $X-\mathring{A}= \overline{X-A}$
(iii)$\mathring{A}= (\overline{A^c})^c \to \mathring{A}= X-(\overline{X-A})$
(iv)$[\mathring{A^c}]^c = \overline{A} \to X - int(X-A) = \overline{A}$

Question 3

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Question 4

Find the mutually non-comparable topologies for the set {a,b,c}

Question 5

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Question 6

Verify if $X = \{a, b, c, d, e\}, T = \{X, \phi, \{a\}, \{c, d\}, \{a, c, d\}, \{b, c, d, e\}\}$ is a topology. Find all the closed sets, clopen and n-clopen sets.