M317 ec 2 Assignment #2

1. Under what conditions is $\sup(A)$ not an accumulation point for $A$?

2. Give an example of a set with the following properties or explain why no such set is possible:
   a. an infinite set with no accumulation points
   b. a bounded set with no accumulation points
   c. an interval $(a, b)$ containing only irrational numbers
   d. a set $A \subset \mathbb{R}$ that contains its $\sup$ but not its $\inf$
   e. a finite set that does not contain its $\sup$

3. Show that every irrational number is an accumulation point of $\mathbb{R}$