95 (bitonic list) A list is bitonic if it is monotonic up to some index, and antimonotonic after that. For example, $[1; 3; 4; 5; 5; 6; 4; 4; 3]$ is bitonic. Express formally that L is bitonic.

After trying the question, scroll down to the solution.

§ $$\exists n: 0,..\#L+1\cdot (\forall i, j: 0,..n\cdot\ i{\le}j \Rightarrow L\,i \le L\,j) \wedge (\forall i, j: n,..\#L\cdot\ i{\le}j \Rightarrow L\,i \ge L\,j)$$

This allows the monotonic and antimonotonic parts to be empty. I am not sure if that's what the question meant. If the two parts have to be nonempty, then

$$\exists n: 1,..\#L\cdot (\forall i, j: 0,..n\cdot\ i{\le}j \Rightarrow L\,i \le L\,j) \wedge (\forall i, j: n,..\#L\cdot\ i{\le}j \Rightarrow L\,i \ge L\,j)$$