

VC Dimension: Solutions

Mathias Winther Madsen

January 16, 2015

Trivial Portfolio Two options, either $S = \{\emptyset\}$ or $S = \{\Omega\}$.

Windows A rectangle can shatter 4 but not 5 points, so $t^* \leq 4 + 4 = 8$. After checking that there is a sample x with $N(8|x) = 2^8$, this shows that $t^* = 8$

Linearly Ordered Portfolios (Anthony and Biggs, Exs. 7.8 and 7.9)

1. Being linearly ordered means that either the “10” labeling or the “01” labeling is impossible.
2. Since the “00” and “11” must be there by the assumption, only one of the two remaining labelings can be possible.