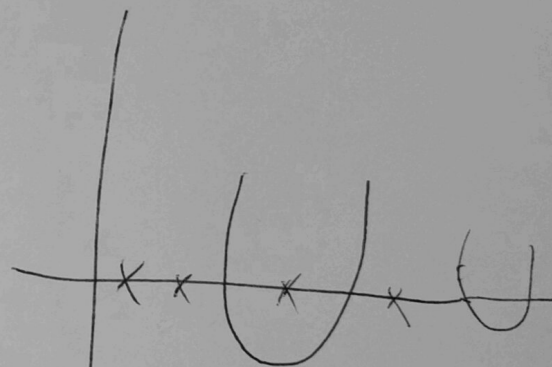
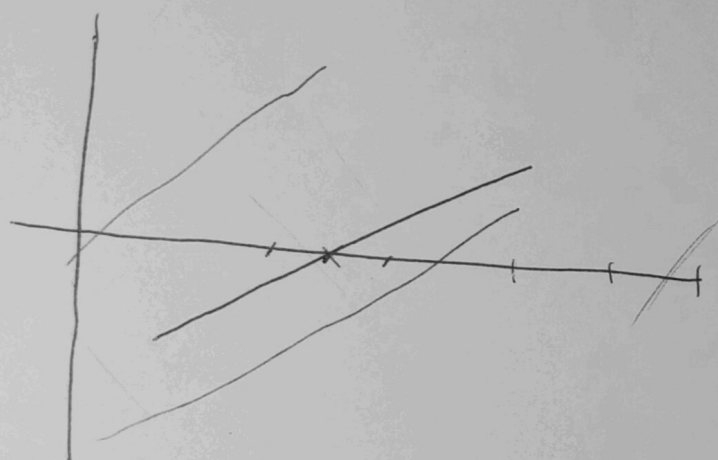
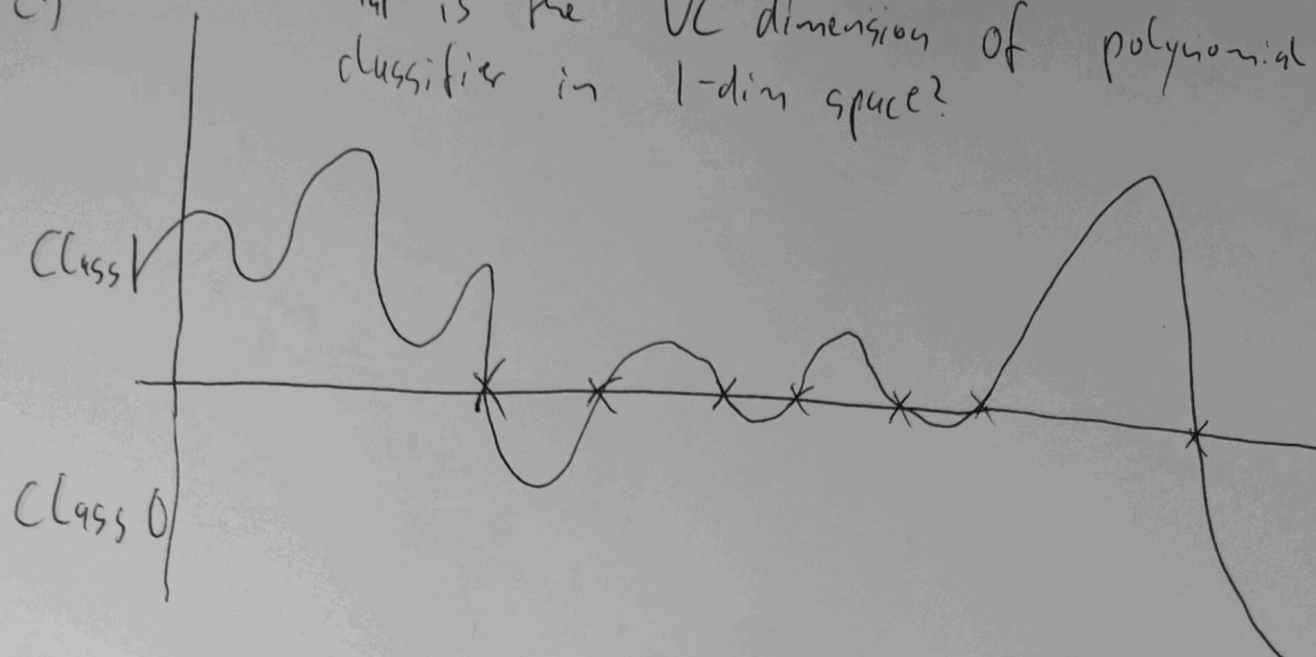


PS3

2.)

What is the VC dimension of polynomial classifier in 1-dim space?



* Can create any arbitrary grouping with $\leq d+1$ groups by adjusting θ_i .

To shatter data set of n points, which can represent 2^n possible labelings, the set with most number of adjacent "groups" of points in same class is when points are alternating classes. Polynomial of degree d has max d real roots \Rightarrow crosses x -axis d times max. \Rightarrow Can create max $d+1$ groupings. \Rightarrow VC of $H = d+1$