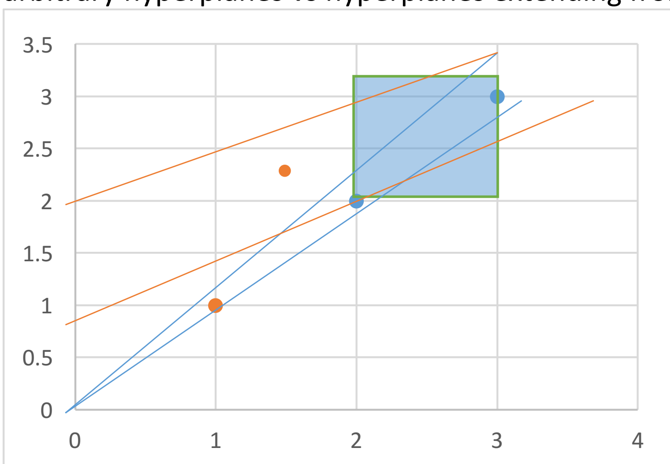
The ordering is plain to see in terms of complexity from our results. The axis-aligned rectangles are best followed by arbitrary hyper planes and hyper planes through the origin come up last when we consider our results.

It's easiest to shatter points using the rectangles, with the only way we can't shatter points is when a bad point x value is within the bounds of the minimum x and maximum x as well as the y value being within the bounds of the minimum y and maximum y. On the other hand, the hyper planes through the origin dictate that we can't have any bad points between the maximum plane and minimum plane extending all the way from the origin. The arbitrary hyperplane doesn't mandate we extend from the origin and does much better. This is shown in the graph below. There more ways to shatter rectangles than arbitrary hyperplanes and there's more ways to shatter arbitrary hyperplanes vs hyperplanes extending from the origin.



Frequency
$\omega=\pi(1 + \Sigma 2^{x_i})$
Results:
(1, False, -1.0, False)
(2, True, 0.7071067812101495, True)
(4, False, -0.555570233012664, False)
(5, True, 0.95694033573342, True)
(13, False, -0.0072863442679102245, False)
(14, True, 0.9999933635382953, True)
(19, False, -0.0491813870082934, False)

Assuming x = 2, 3, 4, 5 setting w=1 in sin(w*x):
Sin(1*2)>0; +
Sin(1*3)>0; +
Sin(1*4)<0; -
Sin(1*5)<0; -
Sine is not a classifier that can shatter the real number points.