The definition of VC dimension is: if there exists a set of n points that can be shattered by the classifier and there is no set of n+1 points that can be shattered by the classifier, then the VC dimension of the classifier is n.

For finding VC dimension of $\begin{cases} h(x) = +1 \; if \; a \leq x \leq b \\ h(x) = -1 \quad otherwise \end{cases}$ we will consider several points, starting from the number of one point. For one point it is possible for classifying. For 2 points we consider 4 group:

1: h_1=+1, h_2=+1

2: h_1=-1, h_2=-1

3: h_1=-1, h_2=+1

4: h_1=+1, h_2=-1

All 4 modes are possible. For all 4 modes, you can find a number like x for the output of the function.

For 3 points we consider 8 group:

1: h_1=+1, h_2=+1, h_3= +1

2: h_1=+1, h_2=+1, h_3= -1

3: h_1=+1, h_2=-1, h_3= +1

4: h_1=+1, h_2=-1, h_3= -1

5: h_1=-1, h_2=+1, h_3= +1

6: h_1=-1, h_2=+1, h_3= -1

7: h_1=-1, h_2=-1, h_3= +1

8: h_1=-1, h_2=-1, h_3= -1

all states is possible except number 3. Due to h_1=+1 and h_3= +1 so $a \leq \mathrm{X1} \leq b$ and $a \leq \mathrm{X3} \leq b$. We have to find X2 where $X1 \leq \mathrm{X2} \leq X3$. The only number that can be found is either smaller than x1 or larger than x3 which is not acceptable. So VC dimension is 2.