Answer 1

Stationary point $\Rightarrow$ gradient point on of error surface is zero
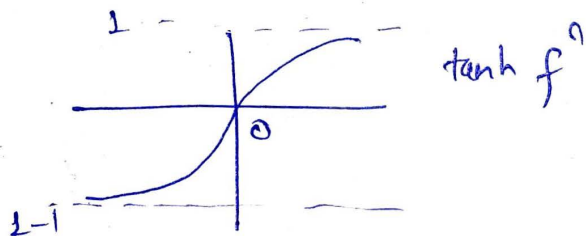
$$h(a) = \tanh(a)$$

$$\tanh(a) = \frac{e^a - e^{-a}}{e^a + e^{-a}} \qquad \text{(activation } f^0 \text{ of range } -1, 1)$$

derivative of $\tanh f^0$

$$h'(a) = 1 - h(a)^2$$

$$SSE = \frac{1}{2} \sum_{k=1}^{K} (y_k - t_k)^2 \qquad \begin{cases} y_k \rightarrow \text{output unit} \\ t_k \rightarrow \text{corresponding target} \end{cases}$$

tanh f^0

for origin space L to be Stationary of the tanh activation f^0 where all partial derivative of weight space are zero.

so from the above we can conclude that if initial weight are __zero__ then origin of weight space is stationary.