

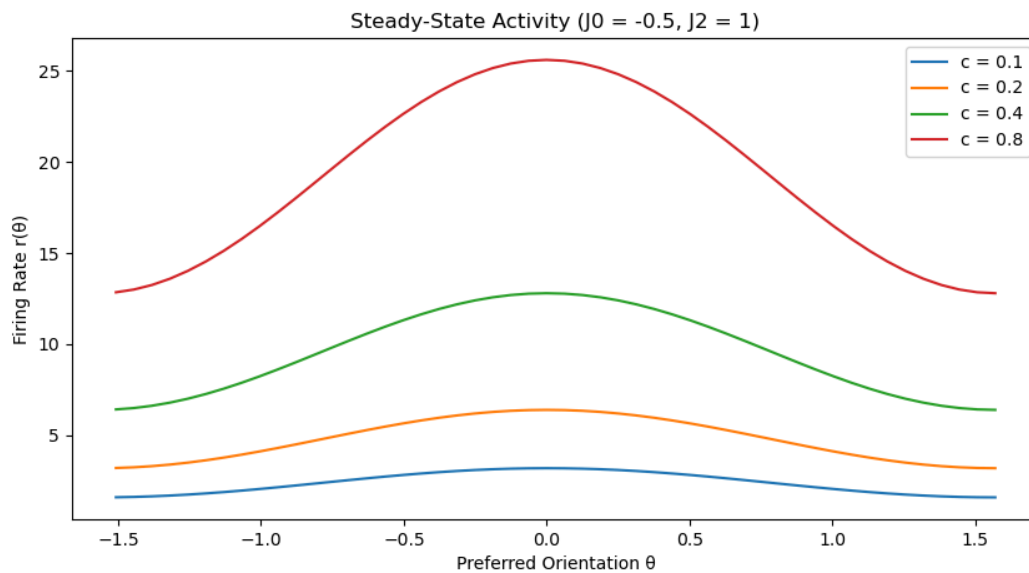
HOMEWORK - 04

Computational Neuroscience

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Question : 1

(a)



As the contract value increases, the external input to the network increases (feedforward input). In the first case, when $J_0 = -0.5$ and $J_2 = 1$, the graph shows a broad peak because of weaker recurrent activity. Whereas, in case of $J_0 = -7.3$ and $J_2 = 11$, there is strong recurrent connectivity in the network, the activity increases sharply over a short range of preferred orientations. This suggests that recurrent connectivity plays a role in enhancing orientation selectivity and controlling gain based on input strength.

(b)

