## **Applying chain rule in a neural network**

How many derivatives do we need to compute and how do we compute them?

1. Let’s focus on the highlighted weight(w222) of the following neural network
2. To learn this weight, we have to compute the partial derivative w.r.t loss function a
3. We can calculate as follows
4. Thus, by breaking the partial derivative into all the subdivisions along that path and multiplying it, we will get the required solution.