Computational Graph Practice

Building upon the computational graphs introduced in the lecture, this worksheet provides some additional (optional) problems drawing computational graphs. These are key skills for building neural networks. If you would like feedback on this work, feel free to submit it to: gabriella.miles@bristol.ac.uk once you have completed it.

For each of the problems below, sketch out the corresponding computational graph:

1. $Z = x + y$
2. $Z = xy$
3. $Z = xy + p$
4. $Z = x(y + p)$
5. $Z = (x + y) \times (p + q)$
6. $Z = x^2$
7. $Z = (x + y)^2$
8. $Z = (xy)^2$
9. $Z = (xy)^2 + (p + q)^2$
10. $Z = \tanh x \cosh y + p$