This article is prepared as a lecture note on recent developments on the computation of scattering amplitudes, aimed at graduate students and young researchers. The author is one of the pioneering and leading scholars on this particular topic and the contents are very pedagogic; thus it is recommended for anyone who are interested in this intriguing topic.

The article first reviews the spinor-helicity formalism, a basic calculatory method of the subject, and shows as a simple example how to calculate three-point gluon amplitudes. For multi-gluon amplitudes in general, one needs some factorization methods. In the latter half of the article the author presents how such general gluon amplitudes can be calculated at tree level. Particularly, the so-called BCFW recursion relations [1] are reviewed in detail. The BCFW are now one of the basic techniques in the computation of scattering amplitudes beyond tree level as well. Thus this article provides a proper introduction to the topic of scattering amplitudes and, hopefully, the interested readers learn more from the references cited in the article.

References

[1] R. Britto, F. Cachazo, B. Feng and E. Witten, Phys. Rev. Lett. **94**, 181602 (2005) doi:10.1103/PhysRevLett.94.181602 [hep-th/0501052].