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Using applets in math courses

We used applets in math courses as a visual aid to animate aspects of mathematics where static drawings and oral explanations cannot ideally transport the main idea. We present some examples and discuss students' feedback.

Many students find it difficult to visualize geometric objects, such as graphs and curves. Moreover, most first year students lack familiarity with computer algebra systems (e.g. Matlab). To address these difficulties, in 2016-2018, we used interactive applets in several first year D-Math Analysis courses for various engineering departments. The applets were used during the lectures as dynamic visual demonstrations, and were linked to in the lecture notes for individual experimentation and learning. Moreover, some applets were used in interactive exercises and as a tailor-made computer algebra system that does not require prior knowledge from the students. Most of the applets were created using Geogebra. We will present some of these applets and show how they were used in the classroom and how they can be embedded into interactive lecture notes (such as E-Skript). We will also discuss the detailed feedback we've received from the students enrolled in the courses implementing the applets.