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Expectations of the Copy and Paste Action for Formulæ

When an object, of any nature, is displayed and selectable on a computer screen, users expect it to be copy-and-paste-able: one can invoke the copy function and insert (paste) it at other places, within the same programme or beyond. Operating systems have been offering APIs to this effect since decades and many successful copy-and-paste operations are part of the daily routine: texts and images, at least. For mathematical objects, this is not so: geometric constructions of dynamic geometry systems or mathematical formulæ displayed within various computation or editing systems could, in principle, be transferred, but fail often to be so.

This presentation describes the principled expectations about copy-and-pasting mathematical formulæ in a learning context. For example for students it is natural to expect to use a web browser to read a document but to use a computing system to perform calculations on the formulæ of it. Or perhaps to take the solution provided by Mathematica and insert it into the report, prepared by Word or Libre Office Write.

Having chosen four widespread software programmes, we have explored transfers between them using copy and paste. The experiments we describe show a multitude of issues, and explain some of them. It appears that copy and paste for regular desktop users is not yet the object of mainstream tested functions even though quite many technical possibilities exist.

To nail this further, we attempt to classify the expectations of users wrt to copy-and-paste: which ones might be realizable provided software adjustments, and which ones are doomed to fail, because of an essential difficulty.