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*Computational examples for aiding graph theory research*

We examine projects where computational tools played a role in generating key examples. Furthermore, the computational techniques turned out to be useful tools for aiding undergraduate research students. We consider two problem areas. The first is *graph homomorphisms*. An *$H$-recolouring sequence* of $G$ is a sequence of homomorphisms $G \to H$ where successive mappings differ on a single vertex. Examples computed by Jon Noel led to a series of papers on circular recolouring problems. The second area is *broadcast domination* and its dual *multipacking*. The speaker's explorations with Sage have led to new results regarding grids.