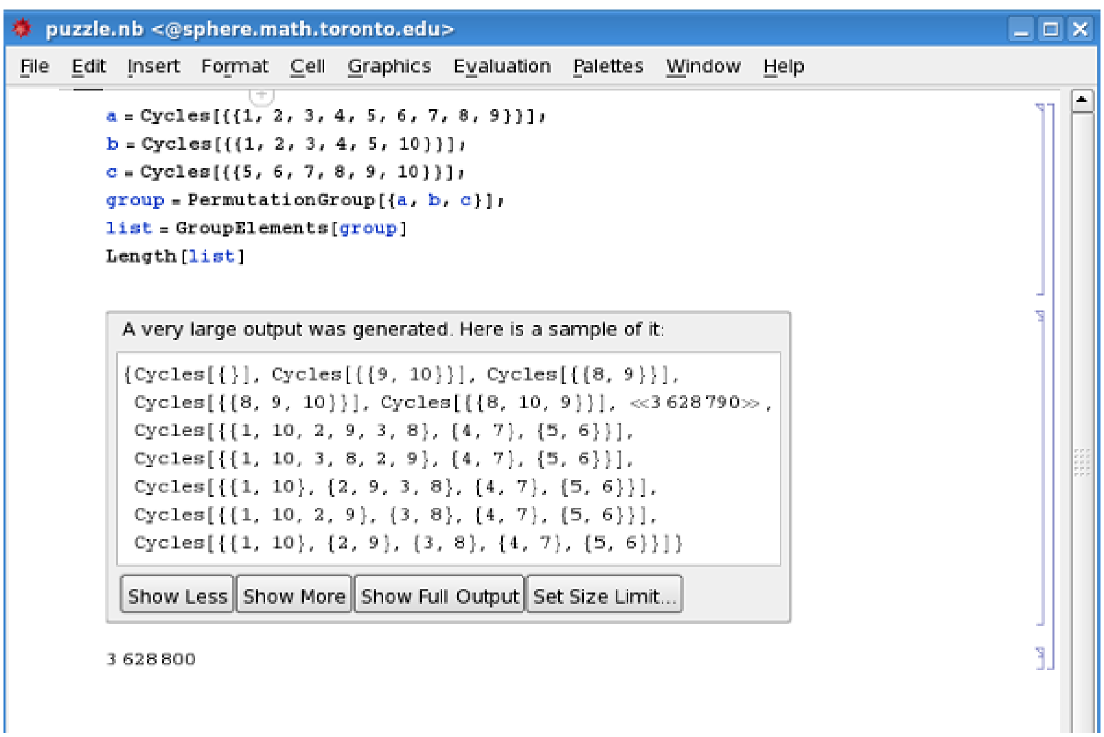
Assignment I, Part I. Daniel Soukup

Below, you can see the Billiards Puzzle.

The following short script shows a possible way to calculate the corresponding permutation group and it's size in Mathematica.



The configurations are generated by three permutations; moving around the large circle (the cycle denoted by **a**), and moving around the two smaller circles (the cycles **b** and **c**). The program generates the group, lists it's elements and gives us that the corresponding subgroup of Sym(10) has 3 628 800 elements.