



# BUILDING DATABASES FOR MATHEMATICAL OBJECTS USING SAGEMATH

GROUP 204

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## 1 INTRODUCTION

A mathematical object is an abstract object arising in mathematics. In mathematical practice, an object is anything that has been (or could be) formally defined, and with which one may do deductive reasoning and mathematical proofs.

Examples include: numbers, permutations, partitions, matrices, sets, functions, and relations. Categories such as algebra and geometry are simultaneously homes to mathematical objects and are mathematical objects in their own right. A Mathematical Objects Database can be like a museum with all of the best mathematical specimens in an intricate catalog and the connections between them. SageMath is a free open-source mathematics software system licensed under the General Public License. It builds on top of many existing open-source packages, combining their power through a common Python-based language.

## 2 PROBLEM STATEMENT

Due to an increased large-scale cloud computing which is one of the ways to provide sophisticated web interfaces that allow both experts and amateurs to easily navigate their contents, there is a problem of uncharted mathematical terrain which requires online resources that provide detailed maps for mathematics.

This can be solved by building databases of mathematical objects for charting the terrain of rich, new mathematical worlds, and sharing of discoveries of the best mathematicians over the web.

## 3 MAIN OBJECTIVE

To build a database of Mathematical Objects that provides detailed maps for mathematics in computers both locally and remotely, plus a documentation on how application developers can use the database.

### **3.1 SPECIFIC OBJECTIVES**

To collect information regarding the different types of mathematical objects and analysing it.

To collect information on how to build databases in python.

## **4 METHODOLOGY**

Your text goes here.

### **4.1 A subsection**

More text.

## **5 REFERENCES**

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### **5.1 A subsection**

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