

# Graph Theory

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# Chapter 1

## Introduction

The aim of this guide is to introduce graph theorists to Lean formalization using the current version of Mathlib.

**Definition 1.** A (simple loopless) *graph* is a pair  $G = (V, E)$  where  $V$  is a set of *vertices* and  $E$  is a set of unordered pairs of elements of  $V$ .