Improving some bounds and whatnot.

My Latex Doc

Table of Contents

Abstract

Part I

Introduction

ectionIntroduction

Let Γ be a finite group with a subset S. The *Cayley digraph*, denoted Cay(Γ,S), is a digraph with vertex set Γ, such that (x,y) is a directed edge if and only if $yx^{-1} \in$ S.

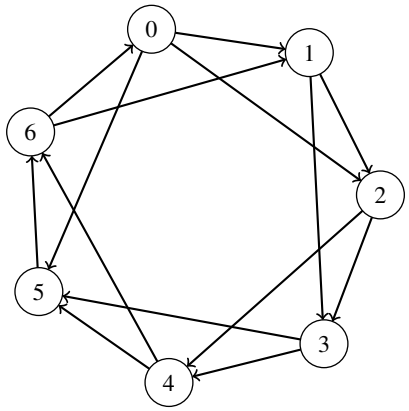

Fig. 1: A Cayley digraph with 7 vertices and generating set S = {1,2}.

For any positive integer d we define

$$\text{m(d,A)} = \max\{\text{m} \mid \text{d(m,A)} \leq \text{d}\}$$

the largest positive integer m such that the diameter of the Cayley digraph Cay(m,A) is less than or equal to d. For positive integers d and k,

$$\text{m(d,k)} = \max\{\text{m(d,A)} \mid \text{there exists a set A with |A| = k }\}.$$

Part II

Results

1 What else?