

Exercises, Problems, Solutions: Introduction to the Theory of Computation

Abreto Fu¹

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¹Email: abreto [AT] std.uestc.edu.cn

Contents

0	Introduction	5
	Problem 0.1	5

Chapter 0

Introduction

Problem 0.1

Examine the following formal descriptions of sets so that you understand which members they contain. Write a short informal English description of each set.

- a. $\{1, 3, 5, 8, \dots\}$
- b. $\{\dots, -1, -2, 0, 2, 4, \dots\}$
- c. $\{n \mid n = 2m \text{ for some } m \text{ in } \mathcal{N}\}$
- d. $\{n \mid n = 2m \text{ for some } m \text{ in } \mathcal{N}, \text{ and } n = 3k \text{ for some } k \text{ in } \mathcal{N}\}$
- e. $\{w \mid w \text{ is a string of 0s and 1s and } w \text{ equals the reverse of } w\}$
- f. $\{n \mid n \text{ is an integer and } n = n + 1\}$