First Examples

1.1

Topics:

Introducing some “games”

Introduction

Chapter 1.1 of the book is just an introduction to thinking about problems algorithmically; there isn't really anything we're learning quite yet.

The chapter introduces some "games" to get us started, so it will be easiest just to show the games and some examples from the homework.

Josephus Game

Exercise 3(a)
Josephus game with 15 people, eliminating every 3rd person (starting with person 3).
Who is the last and 2nd-to-last man standing?

>> Result should be 5 and 14

Exercise 3(c)
Josephus game with 15 people, eliminating every 2nd person.

>> Result should be 15 and 7

Coin Toss

Exercise 7
Suppose you toss three coins: a nickel, a dime, and a quarter, in that order, and record the results.

(a) In a systematic way, list all the different results you could record.

(b) Draw a game tree for the recording of the results.

(c) On a game tree, label each possible result either 0, 1, 2, or 3, indicating how many heads it has.
Are you more likely to get all 3 heads, or exactly 2 heads?