

Homework 6

Instructor: Sandy Irani

Covers sections 10.1-10.2

Written Homework

zyBook Exercises are labeled in the text with an "E" in the title bar. You do not have to copy the questions for any of the written homework in your solutions that you turn in.

You do not have to compute a final number in your answers. You can leave your answer in the form of an arithmetic expression (e.g., 3^5 or $26 \cdot 36$) as long as that expression evaluates to the correct number.

- 1) zyBooks exercise 10.1.2
- 2) This question is concerned with strings over the alphabet $\{a, b, c, d\}$.
 - (a) How many strings have length 7?
 - (b) How many strings have length 10 or 11?
 - (c) How many strings have length 10 and start with "bac"?
 - (d) How many strings have length 10 and state with "ab" or "bac"?
- 3) A group of three families make the carpool schedule for driving to school for the month of May. There are 20 school days in May and if a family is assigned to drive for a day, then that family does all the driving for that day (to and from school). There are no restrictions on the number of times any single family can be assigned to drive during the month. How many possible schedules are there? Note that it matters which family is assigned to drive which day.
- 4) zyBook exercise 10.2.3
- 5) zyBook exercise 10.2.4
- 6) zyBook exercise 10.2.5

Challenge Activities (marked with a "C" in the title bar)

- 1) Challenge Activity 10.1.1