

Symbol Tables

A. For each application, choose the best types for the ST:

1. For each calendar year since 1748, the number of students who graduated from Princeton that year.	a. <code>ST<String, Integer></code>
2. Dictionary of all synonyms of all English words.	b. <code>ST<String, Boolean></code>
3. Count frequency of words in a book.	c. <code>ST<Integer, String></code>
4. List people living at every postal address and their ages.	d. <code>ST<Integer, Integer></code>
5. Track how each senator voted (yes or no) on a motion.	e. <code>ST<String, String[]></code>
6. Look up the state containing any given zip code.	f. <code>ST<String, ST<String, Integer>></code>

B.

1. Say we have a program that uses a `double[]`. Can we replace it with `ST<Integer, Double>` in all cases? Why or why not?
2. Now, vice versa. Say we have a program that uses `ST<Integer, Double>`. Can we replace it with a `double[]` in all cases? Why or why not?
3. What are the benefits of using an ST?
4. What are the benefits of using an array?