ADT Selection

Suppose we have a TA Shreyas who teaches multiple discussion sections! A student may frequent more than one discussion section. For each situation below, choose the best ADT(s) out of the following — Map, Set, List — and explain how you can use the ADT(s) to solve the problem. Each subpart is independent of the previous. One answer may involve multiple ADTs. There may be mutliple efficient answers for each problem.

1. Storing all the Students in Shreyas's first section in alphabetical order.

2. Storing all the Students by their section, where Students within a section are sorted alphabetically.

3. Storing the Students in *all* of Shreyas's sections. There shouldn't be duplicates.

4. Quickly getting a Student by sid.

5. Quickly getting all Students of a given name. Names aren't necessarily unique.

6. Cycling through the Students in one discussion section.