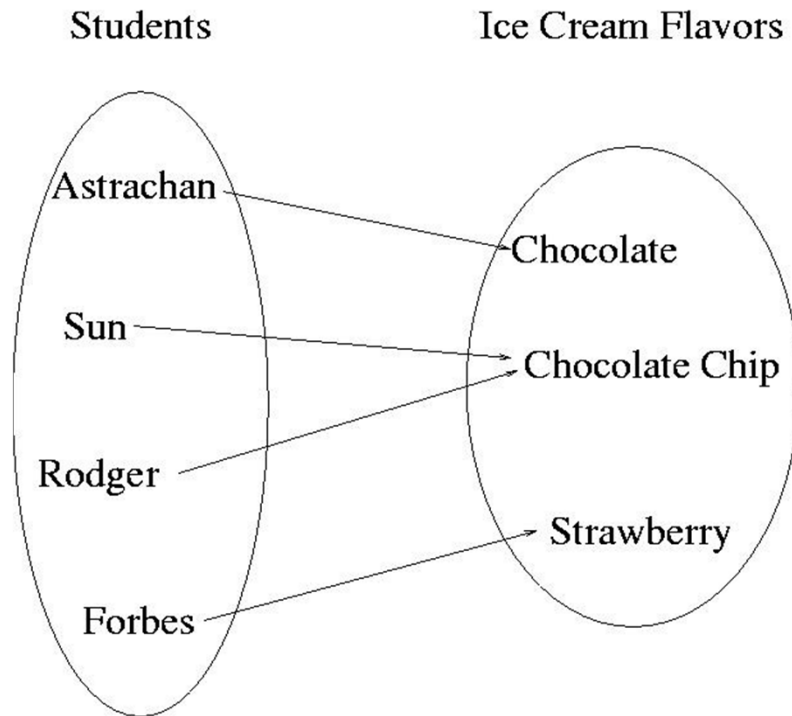


CompSci 100e

Program Design and Analysis II



February 1, 2011

Prof. Rodger

Announcements

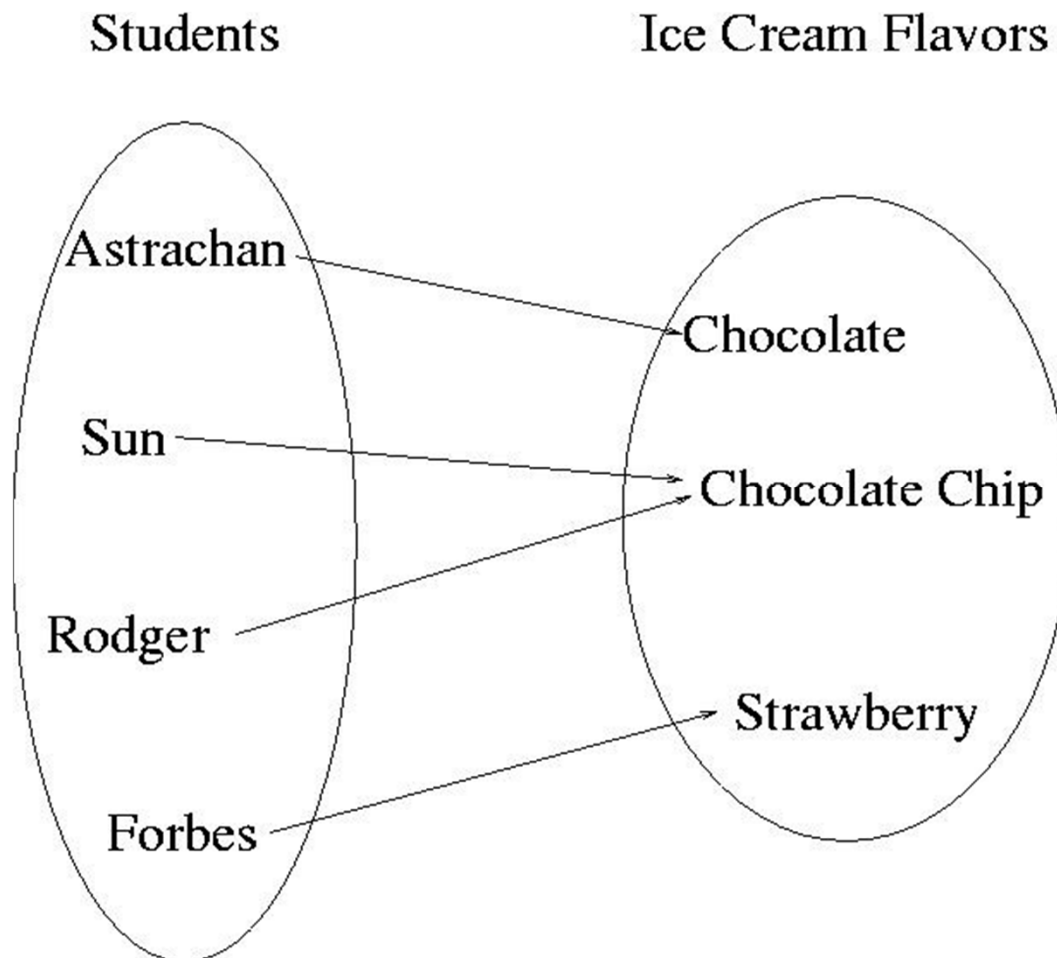
- APT 0201 due today!
- Assignment Prestidigitation due 2/3

Maps

- Maps are another way of organizing data
- Keys and Values
 - Each key maps to a value
 - Some keys can map to the same value
 - Can change the value a key maps to

Example

- Each student could be mapped to their favorite ice cream flavor



Implementing a Map

- We will use TreeMap in Java
 - Will also use HashMap, another implementation

- Example:

```
TreeMap<String, String> fav =  
new TreeMap<String, String>();
```

- Keys map to values

To use a Map

- Put in a key and its value

```
fav.put("Forbes", "Strawberry");
```

- Get a value for a key

```
val = fav.get("Forbes");
```

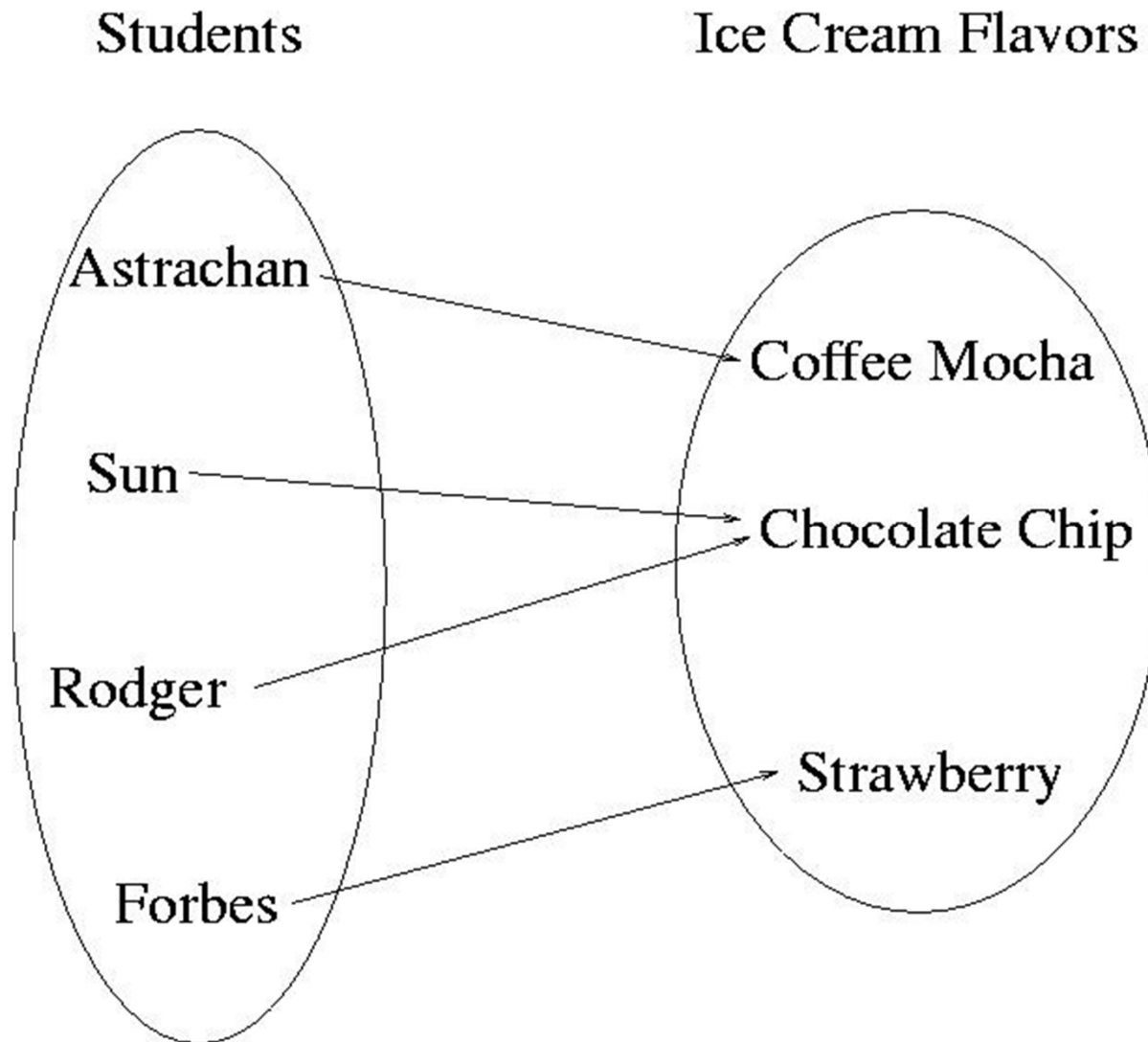
- Change value for key

```
fav.put("Astrachan", "Coffee  
Mocha");
```

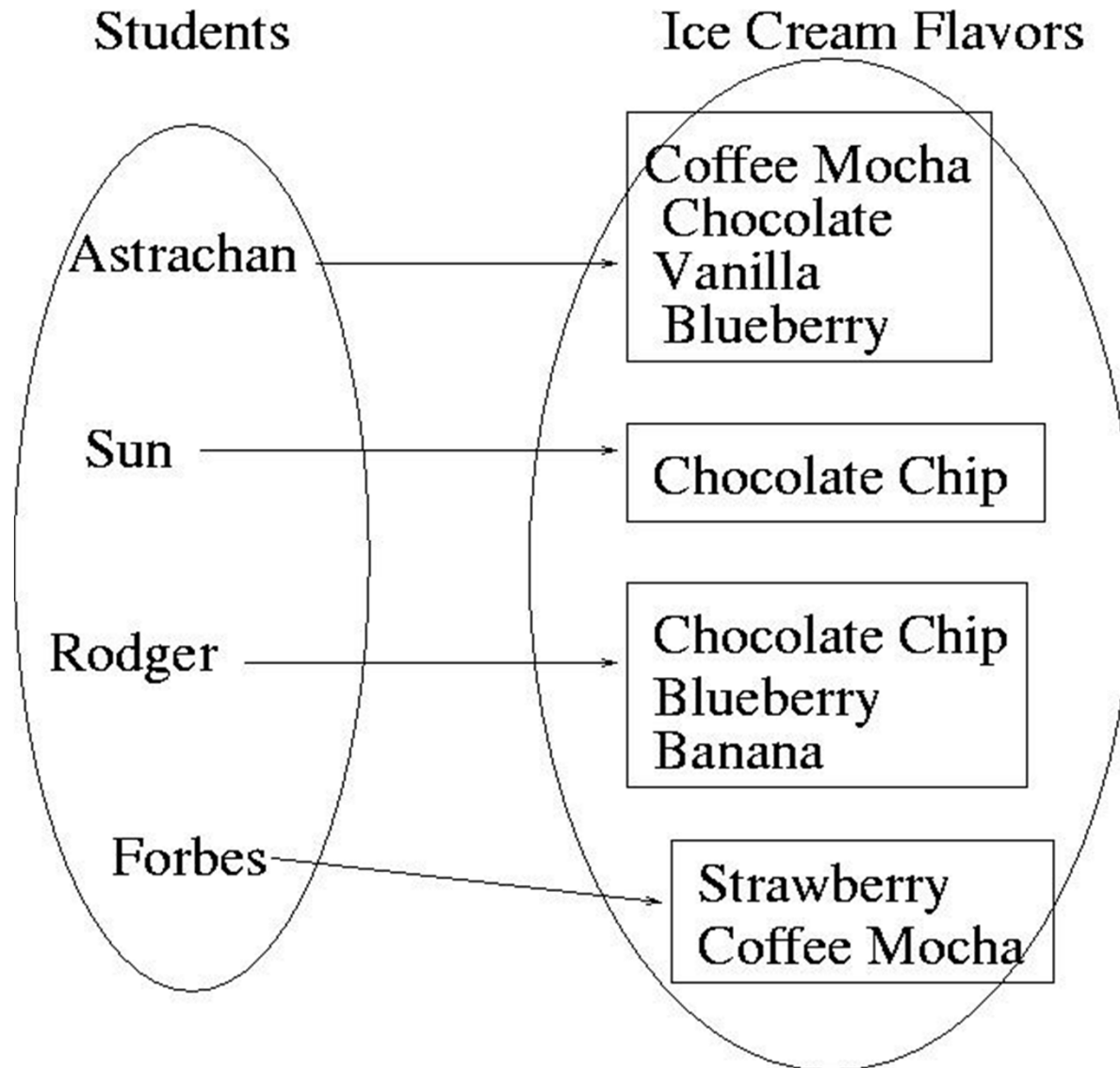
- Get all the keys as a set

```
Treeset<String> ky =  
fav.keySet();
```

Change Astrachan's value



Value could be a set



Let's go back to ClassScores

- Find all the modes in an array of ints
- This time solve it using a map