Sets

- Interface `Set`
- Implmentations `HashSet` `TreeSet`
- Library `java.util.Set`

```
Set<String> names = new HashSet<String>();

names.add("Annie");
names.remove("Bill");


for (String name: names){
    .....
}
```

Maps

- association between *keys* and *values*
- Interface `Map`
- Implmentations `HashMap` `TreeMap`
- Library `java.util.Map`

```
Map<String, Color> favColors = new HashMap<String,

favColors.put("Annie", new Color("red");
favColors.remove("Annie");
Color temp = favColors.get("Annie");
     // returns {\tt null} if not there
for (String name: favColors.keySet()){
   .....
}
```

Mathematical Methods

- `Math` is part of the Standard Library

```
Math.sqrt(x)  //Computes Square root of x
Math.pow(x,y)  //Computes x^y
Math.sin(x) //Sine of x
Math.cos(x) //Cos of x
Math.min(x,y) // computes the minimum
```

```
x1 = (-b + Math.sqrt(b * b - 4)) / (2 * a)
```

Static Initialization

- Only done once, before the constructor is executed.

```
public class BankAccount
{
   private static int myNum;

   static
     {
      myNum = 1000;
     }
}
```