Reflection

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Intro

- The ability for a class or object to examine itself.
- Reflection allows dynamic information about:
  - Data fields
  - Methods
  - Constructors.
- `Class` contains the relevant tools for reflection.

Class methods

- `getName()` - Returns the name of the class, e.g. `java.lang.String` or `Deck`.
- `getDeclaredMethods()` - Returns the public methods in the object.
- `getDeclaredFields()` - Returns the public fields of the object.

Calling methods

- Not only possible to inspect the object, can also use information found.

```
public static void someMethod(Object o)
{
        Class c = o.getClass();// Gets the class
        // gets the method in position 0 of declared methods
        Method method=c.getDeclaredMethods()[0];
        try{
                Object obj=c.newInstance();// Create new instance of Class returned
                method.invoke(obj, args); // Call method on obj, with args as parameters
System.out.println(" Method name is" +method.getName()+ "return is ="+method.invoke(obj))
        ;
}catch(Exception e){ System.out.println(" Exception = "+e); }
}
```

- Can do a lot more with reflection.

The End