Circle c = new Circle(j)
Shape s j

Memory Diagrams .pdf
\( \neg s = c \cdot j \)

\( c = \text{null} \cdot \)  

\( c = (\text{Circle}) \cdot s \cdot \)  

`Circle`  

`Circle`  

`Ship`  

`Ship`  

`Circle`
Square sq = new Square();

s = sq;

circle s;

circle sq;
DuckTyping

If it walks like a duck and quacks like a duck then it is a duck.
Other means of doing polymorphism

In Java

works via extend
In C++

Virtual methods

In Java

```java
Circle c = new Circle();
Shape s = c;
s.draw();
```

invoked method
Suppose analogy in C++ method 1 gets called unless we mark draw as being virtual. 

In C++

```cpp
Circle c;
Shape s = c;
shape::draw(c, j);
```

(w/out virtual)
Duck Typing

Python community

Polymorphism solely depends on having a method w/ the correct name and is independent of inheriting.
Java

Java 1.5+

class

interface

denum