

EECS1720

Worksheet 4 – More on Polymorphism

- 1) How does java achieve a form of “multiple inheritance”?
- 2) What is a declared type?
- 3) What is a run-time/actual type?
- 4) What is early binding?
- 5) What is late binding?
- 6) What is dynamic dispatch?
- 7) Given a method invocation, the JVM performs late **binding** with the method with the most specific signature. For each of the following method invocations indicate which method has the most specific signature (and will be the version bound to when invoked)

Sprocket	
①	+actionA(double, double) : void
②	+actionA(double, int) : void
③	+actionA(long, long) : void

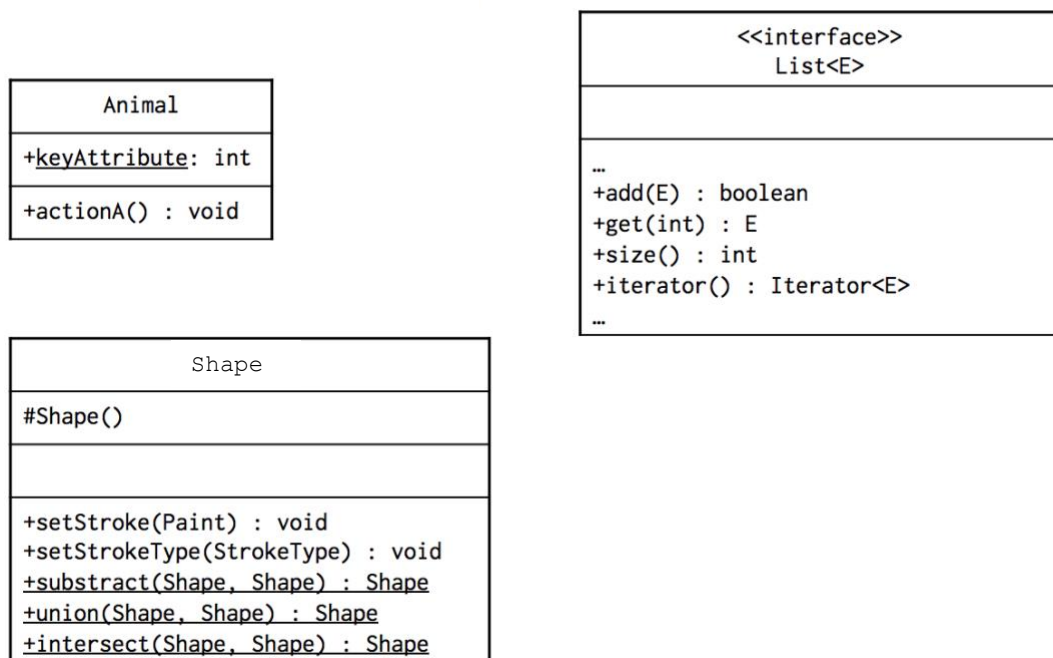
```

Sprocket s = new Sprocket();

// Q1
s.actionA(99.9,33.3);
// Q2
s.actionA(99,33.3);
// Q3
s.actionA(99L,33L);
// Q4
s.actionA(99L,33.3);
// Q5
s.actionA(99f,33f);
// Q6
s.actionA(99f,(short) 33);
  
```

// e.g. this method invocation binds with??

- 8) Notation? Identify the fields, methods, whether they are static, abstract (i.e. has no definition), what access they have, what their signature is (if a method), and whether one can instantiate the type or not.



9) What is meant by polymorphism?

10) Why would you declare a reference variable to be higher up the hierarchy than an object you instantiate?