

```
public class Person {  
    String name;  
  
    public Person(String name) {  
        this.name = name;  
    }  
}
```

super

sub

```
public class Teacher extends Person {  
    double salary;  
  
    public Teacher(String name, double salary) {  
        super(name);  
        this.salary = salary;  
    }  
}
```

```
Teacher elvin = new Teacher(name: "Elvin", salary: 0.1);  
Person up = new Teacher(name: "Up", salary: 0.2);
```

```
Person down = new Person(name: "Down");
```

```
Teacher down = new Person(name: "Down");
```

```
Teacher elvin = new Teacher( name: "Elvin", salary: 0.1);

Teacher up = new Teacher( name: "Up", salary: 0.2);    // upcasting

Student impl = new Teacher( name: "impl", salary: 0.5);

System.out.println(elvin);
System.out.println(up);
System.out.println(impl);

System.out.println(elvin instanceof Teacher);
System.out.println(elvin instanceof Person);
System.out.println("---");

System.out.println(impl instanceof Teacher);
System.out.println(impl instanceof Student);
System.out.println(impl instanceof Person);
System.out.println(impl instanceof Object);
```

```
public boolean equals(Object var1) {  
    if (this == var1) {  
        return true;  
    } else {  
        if (var1 instanceof String) {  
            String var2 = (String)var1;  
            int var3 = this.value.length;  
            if (var3 == var2.value.length) {  
                char[] var4 = this.value;  
                char[] var5 = var2.value;  
  
                for(int var6 = 0; var3-- != 0; ++var6) {  
                    if (var4[var6] != var5[var6]) {  
                        return false;  
                    }  
                }  
  
                return true;  
            }  
        }  
  
        return false;  
    }  
}
```

```
Person elvin1 = new Person(age: 21, name: "elvin"); // 123456
Person elvin2 = new Person(age: 21, name: "elvin"); // 123457

System.out.println(elvin1 == elvin2);
System.out.println(elvin1.equals(elvin2));

elvin2 = elvin1; // 123456
System.out.println(elvin1 == elvin2);
System.out.println(elvin1.equals(elvin2));
```



```
public class Object {
    public Object() {
    }

    private static native void registerNatives();

    @Contract(pure = true) public final native Class<?> getClass();

    public native int hashCode();

    public boolean equals(Object var1) {
        return this == var1;
    }
}
```