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CET 3640 / Lab #3

This Laboratory main objective is to become familiar with the syntax of Java programming. A simple program was created to perform mathematical operations of two numbers. Users will enter the two numbers and then select an operation such as addition, subtraction, multiplication or division. The program will perform the operations requested by the user. Likewise, in this laboratory, five examples of inheritance will be provide. Inheritance allows programmer to easily visualize the properties inherits by the parent or subclass, allowing easier and more clear programming.

Source Code

```
Calculator.java Operations.java
1 //Yeraldina Estrella
2 //CET3640
3 //Lab #3
4 import java.io.BufferedReader;
5 import java.io.InputStreamReader;
6
7 public class Calculator {
8 public Calculator() {
9     }
10 public static void main(String[] args) {
11     String s1 = getinput("Enter the first numeric value: ");
12     String s2 = getinput("Enter the second numeric value: ");
13     System.out.println(" Operations will be perform by first numeric value and second numeric value ");
14     String op = getinput("Enter 1=Add, 2=Subtract, 3=Multiply, 4=Divide ");
15     int opInt = Integer.parseInt(op);
16     double result = 0;
17     switch (opInt){
18     case 1:
19         result=Operations.addValues(s1,s2);
20         break;
21     case 2:
22         result=Operations.subtractValues(s1,s2);
23         break;
24     case 3:
25         result= Operations.multiplyValues(s1,s2);
26         break;
27     case 4:
28         result= Operations.divideValues(s1,s2);
29         break;
30     default:
31         System.out.println("You entered an incorrect value ");
32         return;
33     }
34     System.out.println("The answer is " + result);
35 }
36 private static String getinput(String prompt) {
37     BufferedReader stdin = new BufferedReader(new InputStreamReader(System.in));
38     System.out.println(prompt);
39     System.out.flush();
40     try {
41         return stdin.readLine();
42     } catch (Exception e) {
43         return "Error: " + e.getMessage();
44     }
45 }
46 }
47 }
48 }
```

Calculator.java

Operations.java

```
1 //Y.E.
2 //CET 3640- Lab3
3
4 public class Operations {
5     static double divideValues(String s1, final String s2) {
6         double d1 = Double.parseDouble(s1);
7         double d2 = Double.parseDouble(s2);
8         double result = d1 / d2;
9         return result;
10    }
11    static double multiplyValues(String s1, String s2) {
12        double d1 = Double.parseDouble(s1);
13        double d2 = Double.parseDouble(s2);
14        double result = d1 * d2;
15        return result;
16    }
17    static double subtractValues(String s1, String s2) {
18        double d1 = Double.parseDouble(s1);
19        double d2 = Double.parseDouble(s2);
20        double result = d1 - d2;
21        return result;
22    }
23    static double addValues(String s1, String s2) {
24        double d1 = Double.parseDouble(s1);
25        double d2 = Double.parseDouble(s2);
26        double result = d1 + d2;
27        return result;
28    }
29
30 }
31
```

Outputs

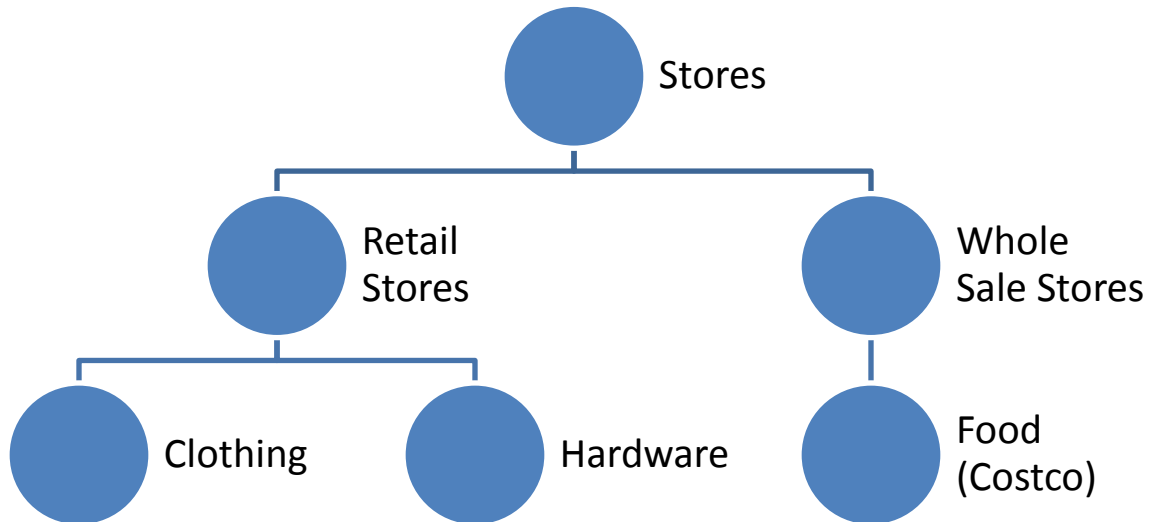
```
<terminated> Calculator [Java Application] C:\Program Files\Java\jdk1.8.0_20\bin\javaw.exe (Oct 9, 2014, 11:31:17 PM)
Enter the first numeric value:
2
Enter the second numeric value:
2
Operations will be perform by first numeric value and second numeric value
Enter 1=Add, 2=Subtract, 3=Multiply, 4=Divide
1
The answer is 4.0
```

```
<terminated> Calculator [Java Application] C:\Program Files\Java\jdk1.8.0_20\bin\javaw.exe (Oct 9, 2014, 11:32:34 PM)
Enter the first numeric value:
2
Enter the second numeric value:
2
Operations will be perform by first numeric value and second numeric value
Enter 1=Add, 2=Subtract, 3=Multiply, 4=Divide
2
The answer is 0.0
```

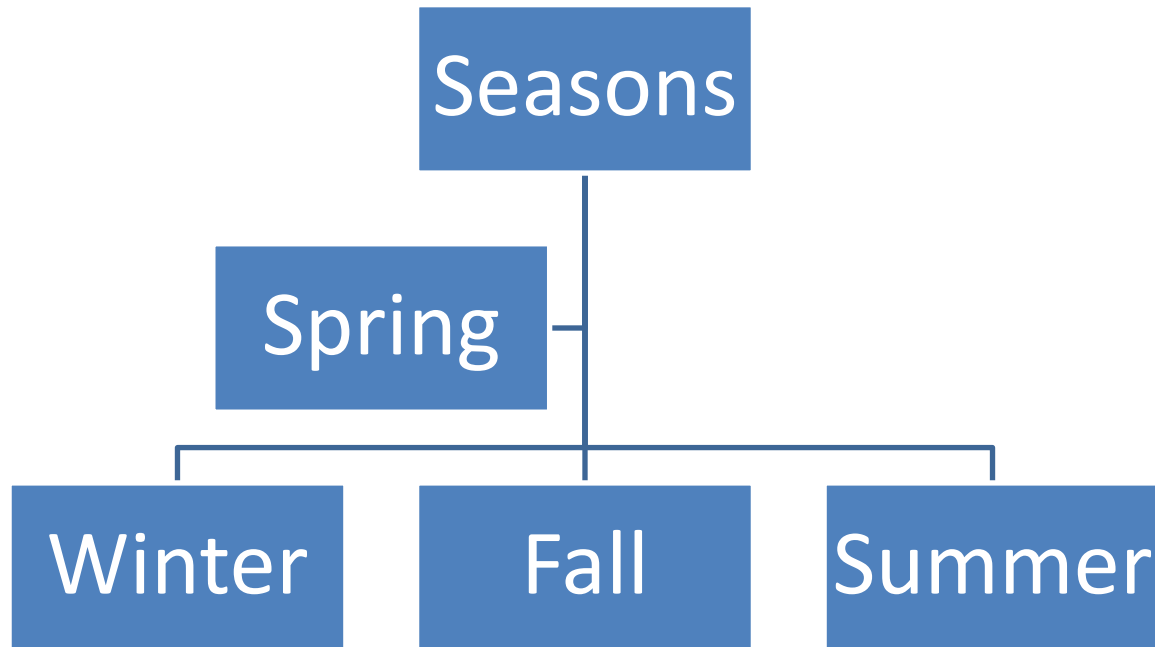
```
<terminated> Calculator [Java Application] C:\Program Files\Java\jdk1.8.0_20\bin\javaw.exe (Oct 9, 2014, 11:33:01 PM)
Enter the first numeric value:
2
Enter the second numeric value:
2
Operations will be perform by first numeric value and second numeric value
Enter 1=Add, 2=Subtract, 3=Multiply, 4=Divide
3
The answer is 4.0
```

```
<terminated> Calculator [Java Application] C:\Program Files\Java\jdk1.8.0_20\bin\javaw.exe (Oct 9, 2014, 11:33:30 PM)
Enter the first numeric value:
2
Enter the second numeric value:
2
Operations will be perform by first numeric value and second numeric value
Enter 1=Add, 2=Subtract, 3=Multiply, 4=Divide
4
The answer is 1.0
```

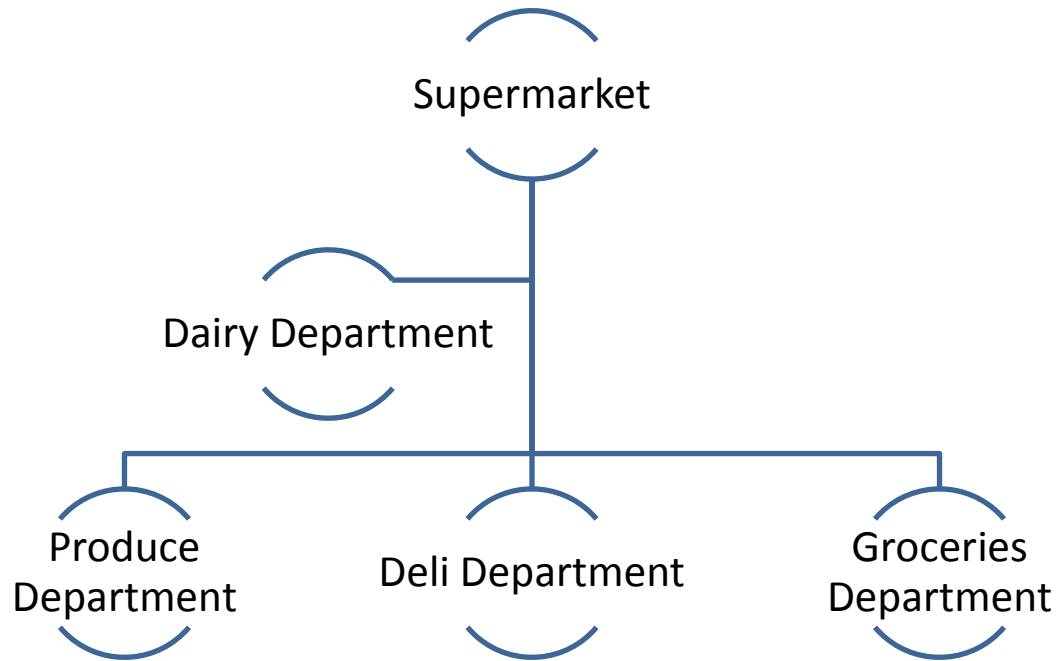
Give 5 examples of Inheritance (State the proprieties inherit from the parent or superclass.)



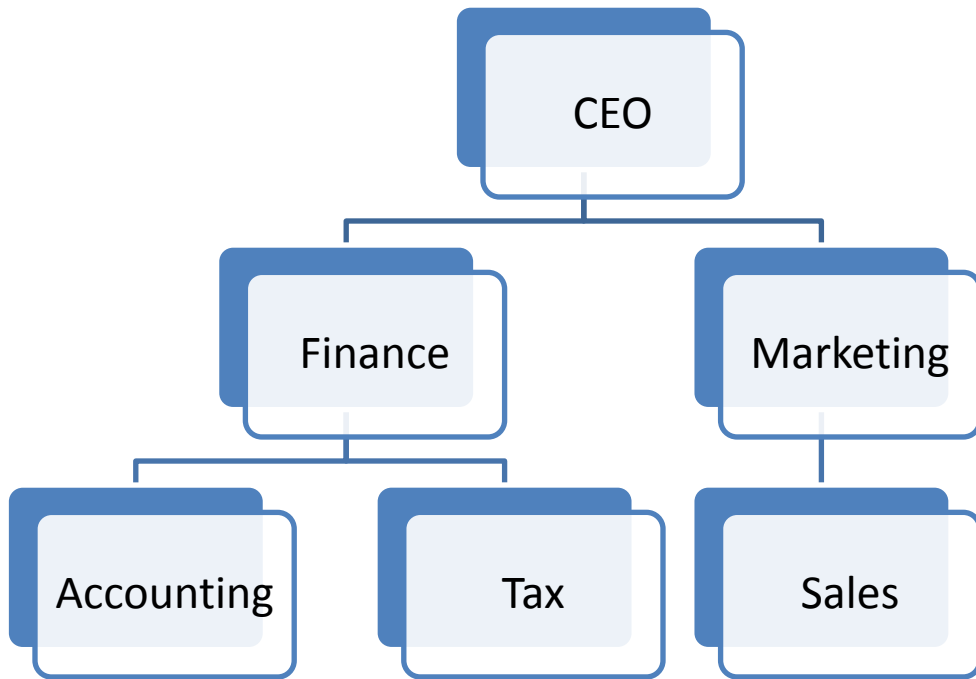
Store is the Super class. Sub classes of Stores are retail stores and whole sale stores. In retail, people could buy small quantities of the product while in whole sale, people can buy more quantities of a certain product.



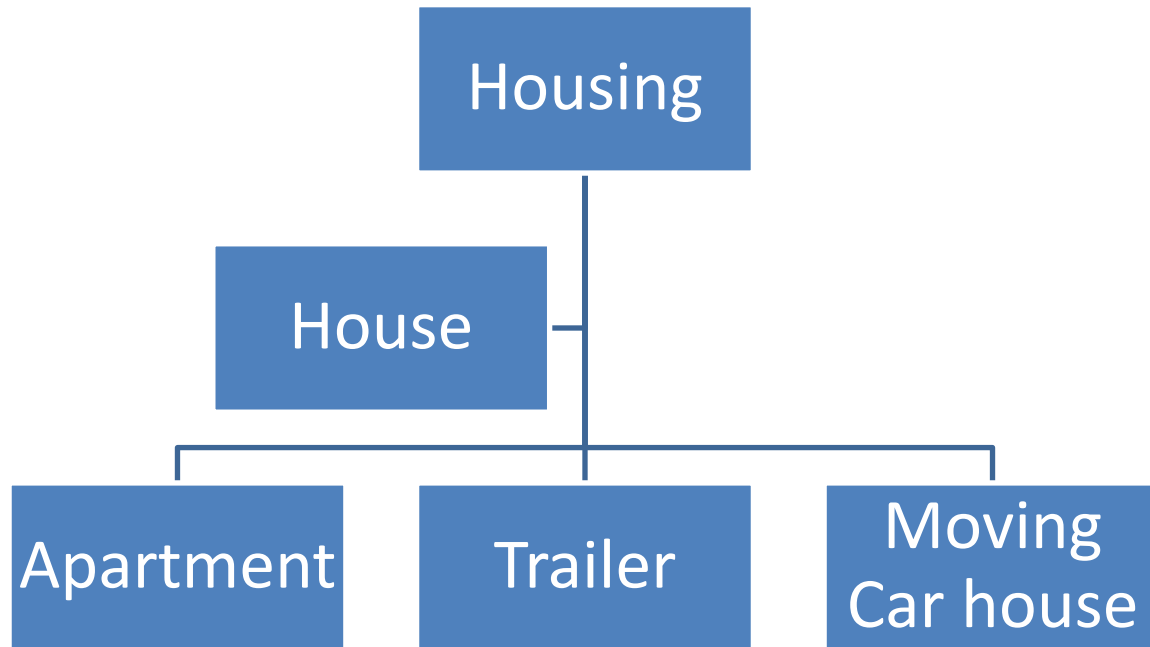
The super class is Seasons. The subclasses are Spring, Winter, Fall an Summer. Each of the four sub-classes have unique properties relate to weather conditions depending on the season.



The Supermarket is the super class. The subclasses represent departments of the supermarket. Each department have unique properties related to what is sell in a supermarket.



The CEO is the super class. Finance and Marketing are subclasses of the CEO. Properties of finance are accounting and tax while properties of marketing are sales. Each property of the sub classes are related to the super class.



Housing is the superclass. There are different categories of housing such as House, Apartment, Trailer, etc. Each of the sub classes of Housing are related to housing since they all provide a shelter for individuals.