

```

import java.util.Scanner;
class list<G><K>
{
    private G ele1;
    private K ele2;
    Scanner get = new Scanner(System.in);
    list(G ele1,K ele2)
    {
        this.ele1=ele1;
        this.ele2=ele2;
    }
    void putData()
    {
        System.out.printf("In The First Element is of %s
type , And it is : \n", (ele1.getClass().getName()).substring(
                10));
        System.out.println(ele1);
        System.out.printf("In The Second Element is of %s
type. And it is : \n", (ele2.getClass().getName()).substa-
                ting(10));
        System.out.println(ele2);
    }
}
class listMain
{
    public static void main(String[] args)
    {
        list<Integer,Double> a1 = new list<Integer,Double>
                (10, 84.55);
        list<Double,String> a2 = new list<Double,String>
                (99.90, "Best of Luck");
        list<String,Integer> a3 = new list<String,Integer>
                ("Good luck" 10);
    }
}

```

```
System.out.println("In <--> object 1");
o1.putData();
System.out.println("In <--> object 2");
o2.putData();
System.out.println("In <--> object 3");
o3.putData();
}
```

}

Output:
In <--> object 1
In <--> object 2
In <--> object 3

So we can see that both objects have access

to each other's methods (e.g. o1.o2.putData())

(why?)

((1)) Inheritance

When we inherit from a class, we get all the methods

of the parent class along with our own methods

(why?)

((2)) Polymorphism

Method overriding

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↳ (2) Overriding a method in a child class

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((2)-(P), Q)

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```

import java.util.Scanner;
class WrongAge extends Exception
{
    private int fAge, sAge;
    WrongAge(int f, int s)
    {
        fAge = f; sAge = s;
    }
    public String testing()
    {
        return "Wrong Age [Father's age (" + fAge + ") <= Son's Age (" + sAge + ")]";
    }
}
class NegativeAge extends Exception
{
    private int PAge;
    NegativeAge(int f)
    {
        PAge = f;
    }
    public String testing()
    {
        return "Negative Age : " + PAge + " can't be less than 0: check again!!";
    }
}
class Father
{
    int fatherAge;
    String name;
    Scanner get = new Scanner(System.in);
    Father() throws NegativeAge
    {
        System.out.printf("\n Enter Details ---> ");
        System.out.print(" Father");
        System.out.print(" Name: ");
        name = get.nextLine();
    }
}

```

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        system.out.printf (" Father's age: "); fatherAge = get.nextInt();
        if (fatherAge <= 0)
            throw new negativeAge (fatherAge);
    }

}

class son extends father
{
    int classNo, sonsAge;
    son() throws wrongAge, negativeAge
    {
        super();
        System.out.printf (" Age: "); sonsAge = get.nextInt();
        if (fatherAge < sonsAge)
            throw new wrongAge (fatherAge, sonsAge);
        else
            if (sonsAge < 0)
                throw new negativeAge (sonsAge);
        System.out.printf (" class: ");
        classNo = get.nextInt();
        System.out.printf (" In the son age is %d , and "
                           " father's age is %d ", sonsAge, fatherAge);
    }
}

class sonMain
{
    public static void main (String[] args)
    {
        try
        {
            son s1 = new son();
        }
        catch (wrongAge w1)
        {
            System.out.println (" Caught an exception: " + w1);
        }
    }
}

```

```
    catch (negativeAge w2)
    {
        System.out.println(" caught an exception: " + w2)
    }
}
```

```
}
```