30/12/22

Lab Program 6

Write a program that demonstrates handling of exceptions in inheritance tree. Create a base class called "Father" and derived class called "Son" which extends the base class. In father class, implement a constructor which takes the age & throws the exception WrongAge() when the input age < 0. In Son class, implement a constructor that cases both father and Son's age and throws exception if Son's age >= father's age.

```
import java.util.Scanner;
class nozerosage extends Exception
{ public String toString()
    { return "Age cannot be lesser than zero";}
    }
}
class notlessthanfather extends Exception
{ public String toString()
    { return "Age cannot be less than father";}
    }
{
Class Father
{ int age;
    Father() {Scanner SS= new Scanner(System.in);
     System.out.println("Enter age of Father:");
     age = SS.nextInt();}
    void checkage() throws nozerosage
    { if(age<0) {throw new nozerosage();}
      else System.out.println("The age of the
       father is "+age);
    }
}
```

```
class Son extends Father
{
    int age1;
    Son() { Scanner SS = new Scanner(System.in);
    System.out.println("Enter the age of the son:");
    age1 = SS.nextInt(); }
    void checkAge1() throws notlessthanfather, negage
    { if (age1 < 0) { throw new negage(); }
      if (age1 >= age) { throw new notlessthanfather(); }
      else System.out.println("The age of the father is"
      + age + " and Son is" + age1);
    }
}
class mainage
{ public static void main(String xx[])
  { Father f1 = new Father();
    try { f1.checkAge(); }
    catch (nozeroage ae) { System.out.println(ae); }
    Son S1 = new Son();
    try { S1.checkAge(); S1.checkAge1(); }
    catch (nozeroage ae) { System.out.println(ae); }
    catch (notlessthafater me) { System.out.println(me); }
  }
}
```

OUTPUT:

Enter the age of the father: -1
Aage cannot be less than zero
Enter the age of the father:
30
The age of the father is: 30
The age of the father is 30 and son is: 12

Enter the age of the father : 90
The age of the father is : 90
Enter the age of the son : -7
The age of father is : 34
Age cannot be less than zero

Enter the age of the father : 50
The age of the father : 50
Enter age of father : 50
Enter age of son : 32
The age of father : 50
The age of father : 50 and son : 32

Enter the age of father : -2
Age cannot be lesser than zero
Enter the age of the father : -2
Enter the age of the son : 3
Age cannot be lesser than zero

Enter the age of the father : 50
The Age of the father : 50
Enter the age of the father : 50
Enter the age of the son : 60
The age of the father is : 50
Age cannot be lesser than father

Command Prompt

```
Enter the age of the father:
-1
Age cannot be lesser than zero
Enter the age of the father:
34
Enter the age of the son:
12
The age of the father is: 34
The age of the father is: 34 and son is: 12

C:\Users\Aditi Suhrut\Documents\Aditi\Java>java mainage
Enter the age of the father:
40
The age of the father is: 40
Enter the age of the father:
34
Enter the age of the son:
-7
The age of the father is: 34
Age cannot be lesser than zero

C:\Users\Aditi Suhrut\Documents\Aditi\Java>java mainage
Enter the age of the father:
50
The age of the father is: 50
Enter the age of the father:
50
Enter the age of the son:
32
The age of the father is: 50
The age of the father is: 50 and son is: 32

C:\Users\Aditi Suhrut\Documents\Aditi\Java>java mainage
Enter the age of the father:
34
The age of the father is: 34
Enter the age of the father:
34
Enter the age of the son:
-7
The age of the father is: 34
Age cannot be lesser than zero
```

Command Prompt

```
C:\Users\Aditi Suhrut\Documents\Aditi\Java>java mainage
Enter the age of the father:
-2
Age cannot be lesser than zero
Enter the age of the father:
-2
Enter the age of the son:
3
Age cannot be lesser than zero

C:\Users\Aditi Suhrut\Documents\Aditi\Java>java mainage
Enter the age of the father:
50
The age of the father is: 50
Enter the age of the father:
50
Enter the age of the son:
60
The age of the father is: 50
Age cannot be lesser than father

C:\Users\Aditi Suhrut\Documents\Aditi\Java>java mainage
Enter the age of the father:
-1
Age cannot be lesser than zero
Enter the age of the father:
-1
Enter the age of the son:
-2
Age cannot be lesser than zero
```