30/1/24 Tuesday

Lab Program - 7

Q1) 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 and throws the exception WrongAge() when the input age < 0. In Son class, implement a constructor that takes both father and son's age and throws an exception if ~~father age~~ son age >= father's age.

Ans:

```
import java.util.Scanner;
class WrongAge extends Exception{
    WrongAge(String message){
        super(message);
    }
}
class Father{
    int fatherAge;
    Father() throws WrongAge{
    Scanner s = new Scanner(System.in);
    System.out.println("Enter father's age");
    fatherAge = s.nextInt();
    if (fatherAge < 0)
        throw new WrongAge("Age cannot be negative");
    }
    void display(){
    System.out.println("Father's Age is " + fatherAge);
    }
}
class Son extends Father{
    int sonAge;
```

```
Son() throws WrongAge{
  super();
  Scanner s = new Scanner(System.in);
  System.out.println("Enter the son's age");
  sonAge = s.nextInt();
  if (sonAge >= fatherAge){
    throw new WrongAge("Son's age cannot be greater than father's age");
  } else if (sonAge<0){
    throw new WrongAge("Age cannot be negative");
  }
}
void display(){
  super.display();
  System.out.println("Son's age is " + sonAge);
}
}
public class ExceptionHandling{
  public static void main(String args[]){
    try{
      Son son = new Son();
      son.display();
    } catch(WrongAge e){
      System.out.println("Error:" + e.getMessage());
    }
  }
}
```

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Output

Enter Father's age
38
Enter Abc son's age
39
Error: Son's age cannot be greater than Father's age.