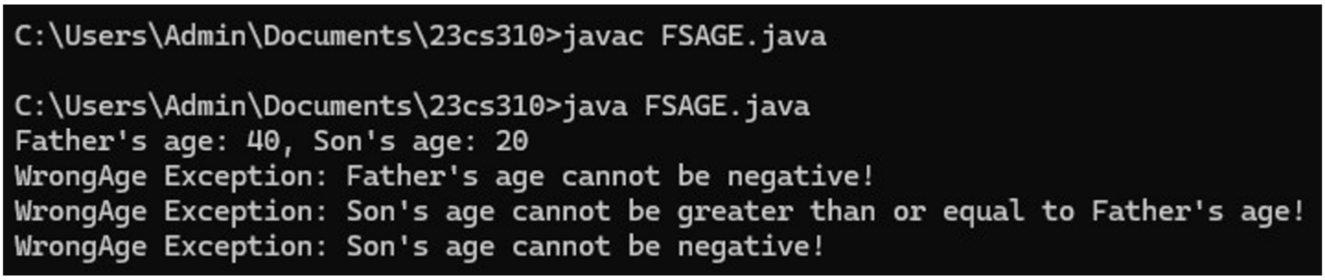
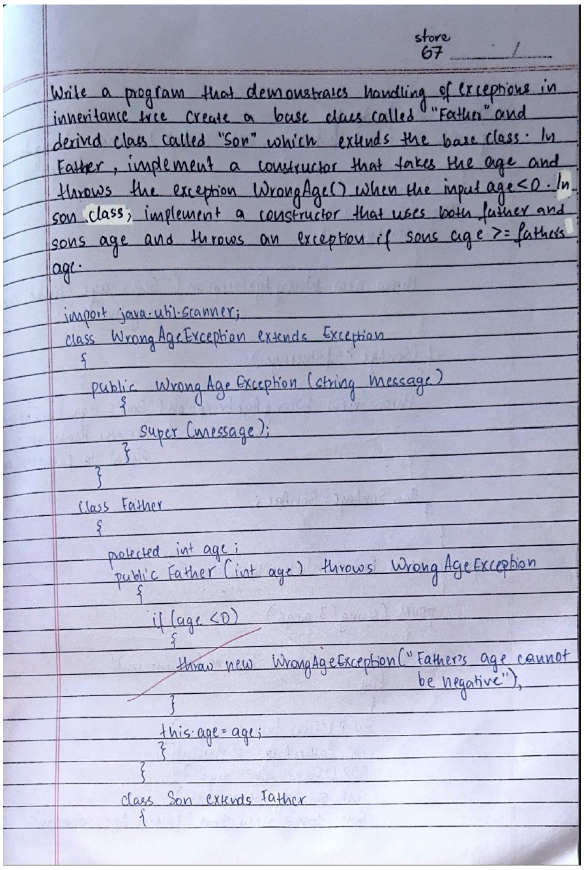
```
class WrongAge extends Exception {
   String message;

   WrongAge(String message) {
this.message = message;
   }

   public String toString() {
      return "WrongAge Exception: " + message;
   }
}
class Father {
   int fAge;
   Father(int age) throws WrongAge {
      if (age < 0) {
         throw new WrongAge("Father's age cannot be negative!");
      }
      fAge = age;
   }
}
class Son extends Father {
int sAge;

   Son(int fAge, int sAge) throws WrongAge {
      super(fAge);

      if (sAge < 0) {
         throw new WrongAge("Son's age cannot be negative!");
      }
      if (sAge >= fAge) {           throw new WrongAge("Son's age cannot be greater than or
equal to Father's age!") }
```

```
        this.sAge = sAge;
    }
}

public class FSAGE {     public static void
main(String[] args) {
        try {
            Father father1 = new Father(40);
            Son son1 = new Son(40, 20);
            System.out.println("Father's age: " + father1.fAge + ", Son's age: " + son1.sAge);

            Father father2 = new Father(-5);
        }
        catch (WrongAge e) {
            System.out.println(e);
        }
try {
            Son son2 = new Son(35, 40);
        }
        catch (WrongAge e) {
            System.out.println(e);
        }
try {
            Son son3 = new Son(50, -10);
        }
        catch (WrongAge e) {
            System.out.println(e);
        }
    }
}
```



```
C:\Users\Admin\Documents\23cs310>javac FSAGE.java

C:\Users\Admin\Documents\23cs310>java FSAGE.java
Father's age: 40, Son's age: 20
WrongAge Exception: Father's age cannot be negative!
WrongAge Exception: Son's age cannot be greater than or equal to Father's age!
WrongAge Exception: Son's age cannot be negative!
```

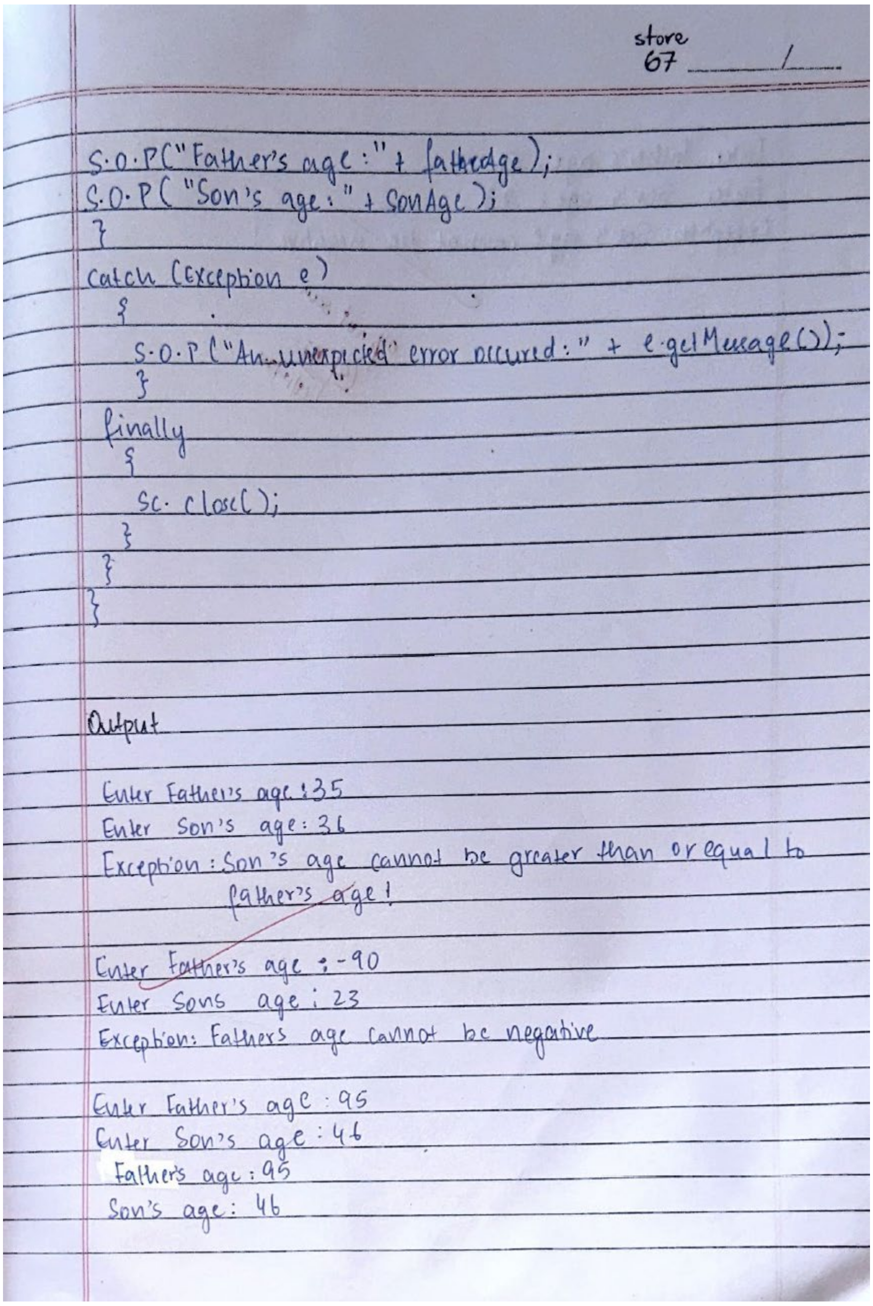


store
67 ____ / ____

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, implement a constructor that takes the age and throws the exception WrongAge() when the input age<0. In son class, implement a constructor that uses both father and sons age and throws an exception if sons age >= fathers age.

```
import java.util.scanner;
class WrongAgeException extends Exception
 {
   public WrongAgeException (string message)
       {
         super (message);
       }
   }
  class Father
   {
     protected int age;
     public Father (int age) throws WrongAgeException
       {
         if (age <0)
           {
             throw new WrongAgeException("Father's age cannot
                                          be negative"),
           }
         this.age = age;
         }
       }
     class Son extends Father
       {
```

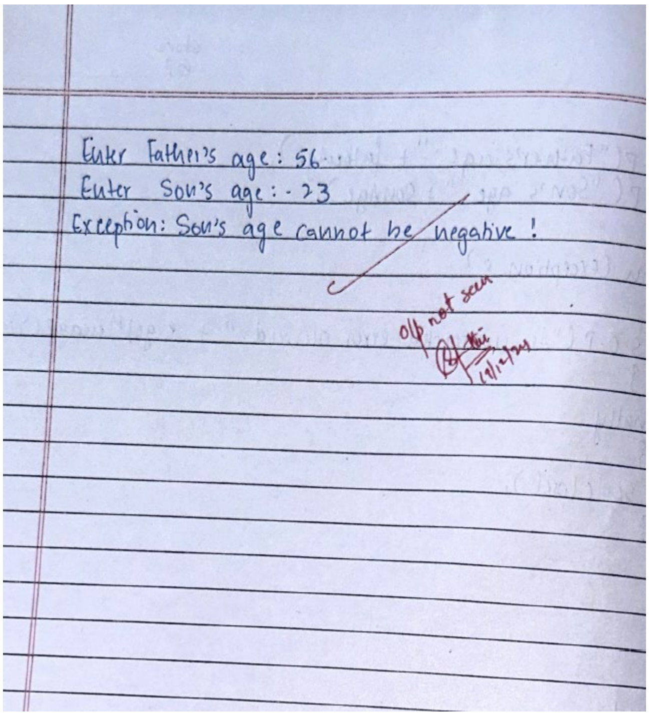
```
private int SonAge;
public Son(int fatherage, int SonAge) throws WrongAge
                                              Exception
 {
   super(fatherage);
   if (sonAge<0)
     {
       throw new WrongAgeException ("Son's age cannot be
                                    negative");
     }
   if (SonAge >= fatherage)
     {
       throw new WrongAgeException ("Son's age cannotbe
                                   greater than or
                                   equal to father's age
     }
     this.SonAge = SonAge;
   }
 }
public class ExceptionInheritanceDemo
 {
   psvm (String[] args)
     {
     Scanner sc = new Scanner (system.in);
       try
         {
         S.O.P ("Enter father's age:");
         int fatherAge = sc.nextInt();
         SOP ("Enter son's age:");
          int sonAge = sc.nextInt();
         Son son = new Son (father Age, sonAge);
```



```
S.O.P("Father's age:"+ fatherAge);
S.O.P( "Son's age:" + sonAge);
}
catch (Exception e)
  {
    S.O.P("An unexpected error occured:" + e.getMessage());
   }
 finally
  {
    sc. close();
  }
 }
}
```

Output

```
 Enter Father's age:35
 Enter Son's age: 36
 Exception: Son's age cannot be greater than or equal to
               father's age!

Enter Father's age : -90
Enter Sons age : 23
Exception: Fathers age cannot be negative

Enter Father's age : 95
Enter Son's age : 46
 Father's age: 95
 Son's age: 46
```



```
Enter Father's age: 56
Enter Son's age: -23
Exception: Son's age cannot be negative !
```

o/p not seen

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