

30/01/2024

Lab Program 7

Q. Java Program to demonstrate Exception handling.

Ans. import java.util.Scanner;

```
class WrongAge extends Exception {  
    public WrongAge() {  
        super("Age Error");  
    }  
    public WrongAge(String message) {  
        super(message);  
    }  
}
```

```
class InputScanner {  
    public static int getInput(String prompt) {  
        Scanner s = new Scanner(System.in);  
        System.out.println(prompt);  
        return s.nextInt();  
    }  
}
```

```
class Father extends InputScanner {  
    public int fatherAge;  
    public Father() throws WrongAge {  
        fatherAge = getInput("Enter Father's age : ");  
        if (fatherAge < 0) {  
            throw new WrongAge("Age cannot be negative");  
        }  
    }  
    public void display() {  
        System.out.println("Father's age: " + fatherAge);  
    }  
}
```



```

class Son extends Father {
    private int sonAge;
    public Son() throws WrongAge {
        super();
        sonAge = getInput("Enter son's age: ");
        if (sonAge > super.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");
        }
        else if (sonAge == super.fatherAge) {
            throw new WrongAge("Son's age cannot be equal
                                to father's age");
        }
    }
    public void display() {
        super.display();
        System.out.println("Son's age: " + sonAge);
    }
}

```

```

public class ExceptionHandling {
    public static void main(String args[]) {
        try {
            Son son = new Son();
            son.display();
        }
        catch (WrongAge e) {
            System.err.println("Error: " + e.getMessage());
        }
    }
}

```

Output:

(i) Enter Father's age : 54

Enter Son's age : 19

Father's age : 54

Son's age : 19

(ii) Enter Father's age : 19

Enter Son's age : 54

Error: Son's age cannot be greater than father's age

(iii) Enter Father's age : -2

Error: Age cannot be negative

(iv) Enter Father's age : 12

Enter Son's age : 12

Error: Son's age cannot be equal to father's age

(v) Enter Father's age : 45

Enter Son's age : -3

Error: Age cannot be negative

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