Folder T1

5 printable files

(file list disabled)

T1\BankAccount.java

```java
package T1;

import java.util.Random;

public class BankAccount {
    static private Random r = new Random();
    private String accountNumber;
    private double balance;
    BankAccount()
    {
        accountNumber = Double.toString(r.nextDouble(10e16,10e17));
    }
    public double deposit(double amount) throws Exception
    {
        validAmount(amount);
        balance += amount;
        return balance;
    }
    public double withdraw(double amount) throws Exception
    {
        validAmount(amount);
        if (amount > balance) throw new Exception("No tiene ese monto en la cuenta");
        balance -= amount;
        return balance;
    }
    public double getBalance()
    {
        return balance;
    }
    public String getAccountNumber()
    {
        return accountNumber;
    }
    private void validAmount(double amount) throws Exception
    {
        if (amount <= 0)  throw new Exception("No se admiten montos negativos o iguales a
cero");
    }
}
```

T1\Book.java

```java
 1  package T1;
 2
 3  public class Book {
 4      private String title = "Sin título";
 5      private String author = "Anónimo";
 6      private int pages;
 7      public String getTitle()
 8      {
 9          return title;
10      }
11      public String getAuthor()
12      {
13          return author;
14      }
15      public int getPages()
16      {
17          return pages;
18      }
19      public void setTitle(String title)
20      {
21          this.title = title;
22      }
23      public void setAuthor(String author)
24      {
25          this.author = author;
26      }
27      public void setPages(int pages) throws Exception
28      {
29          if (pages <= 0) throw new Exception("El libro debe tener al menos una página");
30          this.pages = pages;
31      }
32  }
33
```

T1\Master.java

```java
 1  package T1;
 2
 3  public class Master {
 4      public static void main(String[] args) {
 5          BankAccount mastercard = new BankAccount();
 6          //#region BankAccount
 7          try{
 8              System.out.println("Estado inicial de la cuenta es " + mastercard.getBalance());
 9              System.out.println("Estado de la cuenta tras depositar 1000 es" +
    mastercard.deposit(1000));
10              System.out.println("Estado de la cuenta tras retirar 500 es" +
    mastercard.withdraw(500));
11          } catch(Exception e){
12              System.out.println(e.getMessage());
13          }
```

```java
14          //#endregion BankAccount
15          //#region TemperatureSensor
16          TemperatureSensor sensor1 = new TemperatureSensor();
17          try{
18              sensor1.setTemperature(-60);
19          } catch(Exception e){
20              System.out.println(e.getMessage());
21          }
22          TemperatureSensor sensor2 = new TemperatureSensor();
23          try{
24              sensor2.setTemperature(50);
25              System.out.println("La temperatura del sensor " + sensor2.getId() + " es: " +
    sensor2.getTemperature());
26          } catch(Exception e){
27              System.out.println(e.getMessage());
28          }
29          //#endregion
30          //#region Book
31          Book book1 = new Book();
32          try{
33              book1.setPages(0);
34          } catch(Exception e){
35              System.out.println(e.getMessage());
36          }
37          Book book2 = new Book();
38          try{
39              book2.setTitle("Cien años de soledad");
40              book2.setAuthor("Gabriel García Márquez");
41              book2.setPages(471);
42              System.out.println("Título: " + book2.getTitle());
43              System.out.println("Autor: " + book2.getAuthor());
44              System.out.println("Número de páginas: " + book2.getPages());
45          } catch(Exception e){
46              System.out.println(e.getMessage());
47          }
48          //#endregion
49          //#region Movie
50          Movie movie1 = new Movie();
51          try{
52              movie1.setGenre("Musical");
53          } catch(Exception e){
54              System.out.println(e.getMessage());
55          }
56          Movie movie2 = new Movie();
57          try{
58              movie2.setTitle("Inception");
59              movie2.setGenre("Acción");
60              movie2.setRating(4.8);
61              System.out.println("Título: " + movie2.getTitle());
62              System.out.println("Género: " + movie2.getGenre());
```

```
63          System.out.println("Calificación: " + movie2.getRating());
64          System.out.println("¿Recomendada? " + (movie2.isRecommended() ? "Sí" : "No"));
65      } catch(Exception e){
66          System.out.println(e.getMessage());
67      }
68      //#endregion Movie
69   }
70 }
71
```

T1\Movie.java

```
1  package T1;
2
3  public class Movie {
4      private static String[] genres = {"Acción","Comedia","Drama","Documental","Terror"};
5      private String title = "Sin título";
6      private String genre = "Sin género";
7      private double rating = 0.0;
8      public void setTitle(String title)
9      {
10         this.title = title;
11     }
12     public void setGenre(String genre) throws Exception
13     {
14         for (String g : genres){
15             if (g.equals(genre)){
16                 this.genre = genre;
17                 return;
18             }
19         }
20         throw new Exception("Género no permitido");
21     }
22     public void setRating(double rating)
23     {
24         if (rating >= 0 && rating <= 5.0) this.rating = rating;
25     }
26     public String getTitle()
27     {
28         return title;
29     }
30     public String getGenre()
31     {
32         return genre;
33     }
34     public double getRating()
35     {
36         return rating;
37     }
38     public boolean isRecommended()
39     {
```

```
40          return rating >= 4.0;
41      }
42  }
43
```

T1\TemperatureSensor.java

```java
1  package T1;
2
3  import java.util.Random;
4
5  public class TemperatureSensor {
6      static private Random r = new Random();
7      private int id;
8      private double temperature;
9      TemperatureSensor()
10     {
11         id = r.nextInt(0,1000);
12     }
13     public void setTemperature(double temperature) throws Exception
14     {
15         if ((temperature > 100)||(temperature<-50)) throw new Exception("Solo se aceptan
   temperaturas entre -50 y 100");
16         this.temperature = temperature;
17     }
18     public double getTemperature()
19     {
20         return temperature;
21     }
22     public int getId()
23     {
24         return id;
25     }
26 }
27
```