Exercise Description:

You are required to design a system that computes statistical measures (average, maximum, and minimum) for objects that can be "measured." These objects could be instances of classes like BankAccount and Student, which implement a Measurable interface.

Details:

1. Measurable Interface (Measurable.java):

- This is an interface that any class must implement to be "measurable."
- It contains one method, getMeasure(), which returns a double value representing the measurable quantity (e.g., balance for a bank account, GPA for a student).

2. BankAccount Class (BankAccount.java):

- Implements the Measurable interface.
- It contains a balance attribute, representing the balance of a bank account.
- Implements the getMeasure() method to return the balance of the account.

3. Student Class (Student.java):

- Implements the Measurable interface.
- It contains a gpa attribute, representing the student's GPA.
- Implements the getMeasure() method to return the GPA.

4. Statistics Class (Statistics.java):

- This class is used to collect and compute statistics (average, maximum, and minimum) on objects that implement the Measurable interface.
- It has attributes to keep track of the count of items, sum of the measures, as well as the current maximum and minimum.
- Methods include:
 - add(Measurable item): Adds a measurable object to the statistics, updating the sum, maximum, and minimum.
 - getAverage(): Returns the average of all added measurable objects.
 - getMaximum(): Returns the object with the highest measure.
 - getMinimum(): Returns the object with the lowest measure.

5. Main Class (Main.java):

- The Main class creates instances of BankAccount and uses the Statistics class to compute the average, maximum, and minimum balances.
- Example:
 - Three bank accounts are created with different balances.
 - These bank accounts are added to the Statistics object.
 - The program prints the average, maximum, and minimum balance using the Statistics class.

Task:

1. Implement the Measurable interface, BankAccount class, Student class, and the Statistics class.

- 2. Create a Main class that demonstrates how the Statistics class can be used to compute statistics for different objects (e.g., BankAccount, Student).
- 3. Extend the functionality by adding Student objects to the statistics and calculating their average, maximum, and minimum GPA.

Bonus:

- Implement additional methods in the Statistics class for further insights (e.g., median).
- Modify the Main class to demonstrate how both bank accounts and students can be processed together in a single Statistics object.

This exercise focuses on object-oriented principles such as interfaces, classes, and statistical computation, making use of abstraction and polymorphism.