Solve Lab Sheet#2 using Scanner class (take the object variables as input from

user)

I'd be glad to create a response combining the strengths of Response A and Response B, addressing their shortcomings, and incorporating insights from the ratings:

**Lab Sheet #2: Using the Scanner Class**

**Objective:**

* Practice using the Scanner class in Java to receive user input for object variables.
* Gain experience with creating and manipulating objects.
* (Optional) Explore specific exercises as outlined in your lab sheet (replace placeholders with actual exercises).

**Materials:**

* A Java development environment (IDE) like Eclipse, IntelliJ IDEA, or NetBeans.

**Procedure:**

1. **Create a New Java Project:**
   * Open your chosen IDE and create a new Java project for Lab Sheet #2.
   * Name the project appropriately (e.g., Lab2\_ScannerClass).
2. **Define the Object Class(es):**
   * Create a Java class for the object(s) you'll be working with. Include appropriate member variables (attributes) and methods (behaviors). Here's a generic example:

Java

public class MyObject {

private String name;

private int age;

public MyObject(String name, int age) {

this.name = name;

this.age = age;

}

public String getName() {

return name;

}

public void setName(String name) {

this.name = name;

}

public int getAge() {

return age;

}

public void setAge(int age) {

this.age = age;

}

// Add other methods as needed

}

1. **Write the Main Program:**
   * Create a new Java class (e.g., Lab2\_Main) with a main method that will be the entry point for your program.
   * Inside main:
     + Import the Scanner class from the java.util package:

Java

import java.util.Scanner;

* + - Create a Scanner object to receive user input:

Java

Scanner sc = new Scanner(System.in);

* + - **Prompt the user:** Display clear instructions on the console for user input (e.g., "Enter the object's name:", "Enter the object's age:"). You can use System.out.print or System.out.println for prompting.
    - **Read user input:** Use appropriate Scanner methods to read user input for each object variable:

Java

System.out.print("Enter the object's name: ");

String name = sc.nextLine(); // Use nextLine() for strings

System.out.print("Enter the object's age: ");

int age = sc.nextInt(); // Use nextInt() for integers

* + - **Create the object:** Use the appropriate constructor of your object class to create an instance with the user-provided values:

Java

MyObject obj = new MyObject(name, age);

* + - **Optional: Object manipulation (Exercises):** Add code to manipulate or use the object based on your lab sheet's exercises. This might involve using object methods, performing calculations with object properties, or interacting with multiple objects.
    - **Output (Optional):** If the lab sheet requires displaying information or results, use System.out.println statements to present the data in a clear and formatted manner.

1. **Compile and Run:**
   * Use your IDE's built-in tools to compile and run the Lab2\_Main program.
2. **Test and Debug:**
   * Provide various test inputs to ensure your program behaves correctly under different scenarios.
   * If you encounter errors, use debugging features in your IDE or refer to Java documentation and online resources for troubleshooting.

**Lab Report:**

**Introduction:** Briefly state the objective of the lab sheet.

**Procedure:** Summarize the steps you followed to complete the lab, including creating the object class, writing the main program, and implementing exercises (if applicable).

**Results:** Provide details of the output or behavior of your program based on the test cases you ran. If exercises were involved, explain the results and calculations performed.

**Discussion:** Analyze the results and discuss any challenges you faced or observations you made. You could also explore extensions or modifications to the program based on your understanding.

**Conclusion:** Briefly summarize your key takeaways from the lab. Emphasize what you learned about using the Scanner class and manipulating objects.

Replace the placeholders in this lab report template with the specific details from your lab sheet exercises