General Guidelines:
1. Read the question thoroughly. Understand the scenario, requirements, and expected functionality before you begin coding.
2. Use the exact variable names, function names, and class names provided in the question.
   This ensures consistency and helps in automated or manual evaluation.
3. Follow all technical requirements as specified.
4. Follow MISRA C++ naming conventions.
   - Use descriptive and consistent variable names
     (e.g., componentIdentifier, not id)
   - Avoid abbreviations and reserved keywords
   - Maintain proper formatting and indentation
5. Ensure your code is modular, readable, and well-commented.
   - Break down logic into functions
   - Add comments to explain key parts of your code
6. Validate all user inputs.
   - Check for valid ranges, non-empty strings, and correct enum selections
7. Test your program with the sample data provided.
   - Ensure all functionalities work as expected
8. Submit only the required .cpp and .h files.
   - Make sure it compiles and runs without errors
9. Do not modify the structure of the question.
   - Stick to the design and flow as described
10. Assume suitable data whenever required.
11. If you are not aware of few functionalities then those implementations can be ignored.

Reference Book: C++ How to Program
Authors: Paul Deitel, Harvey Deitel

Refer the above book for Task 1, Task 2, Task 3, and Task 4.

Task 1: 8.8
Task 2: 8.15
Task 3: 8.16
Task 4: 8.18