The objective of this assignment is for students to explore and understand the differences between Java interfaces and abstract classes. Students should analyze the characteristics of interface and abstract class and demonstrate their understanding through Java code examples.

Explore java interface and abstract class, then answer the below questions.

1. What is the key difference between an interface and an abstract class?
2. When would you prefer using an interface over an abstract class, and vice versa?
3. How does the use of multiple inheritance differ between interfaces and abstract classes?
4. Write Java code to demonstrate your answer, use comments to explain how each part demonstrates the characteristics of interfaces and abstract classes