CS 202: IT Workshop I, G22

1. Write a JAVA program to implement the addition operation. It accepts command-line arguments and performs addition based on the arguments provided. The program should follow these rules:

- If the program is run without any arguments, it should display an error message: "Error: No numbers to add."
- If the program is run with only one argument, it should display an error message: "Error: Add requires at least two numbers."
- If the program is run with two or more arguments, it should perform addition on the numbers and display the result. Please see below for a sample run.

Command prompt	**Output**
Add 3 9	12
Add 3 4 6 7 9	29
Add 3	Error: Add requires at least two numbers
Add	Error: No numbers to add

2. Create a base class BankAccount with properties like accountNumber, accountHolderName, and balance. Include methods for depositing and withdrawing money. Then create two subclasses, SavingsAccount and CheckingAccount, that inherit from BankAccount.

- SavingsAccount should have an additional property interestRate and a method to calculate and add interest to the balance.
- CheckingAccount should have a property overdraftLimit and should not allow withdrawals that exceed the overdraft limit.

Write a java program to demonstrate the use of these classes, including creating instances of both SavingsAccount and CheckingAccount.

3. Create a base class Vehicle with properties like make, model, and year, and methods like start() and stop(). Then create a subclass Car that inherits from Vehicle. The Car class should have additional properties like numDoors and isConvertible.
Next, create another subclass Motorcycle that also inherits from Vehicle. The Motorcycle class should have properties like engineSize and hasFairing.
Write a java program to create instances of Car and Motorcycle objects, call their methods, and demonstrate the inheritance hierarchy.