

# School of Computing and Data Science

## Sai University

### Practice Set 3: C++ Basics

1. Create a class **Student** with private data members **name** and **age**. Write setter and getter methods to assign and retrieve their values. Demonstrate their use in **main()**.
2. Define a class **BankAccount** with a private member **balance**. Provide methods **setBalance()** and **getBalance()** to update and view the balance. Ensure that negative values cannot be assigned.
3. Write a program that defines a class **Book** with private members **title** and **price**. Implement setters and getters for both members, and print the details of the book object.
4. Create a class **Rectangle** with private data members **length** and **width**. Write setter and getter methods and calculate the area using them.
5. Define a class **Employee** with private members **id** and **salary**. Use setters and getters to initialize and display their values. In **main()**, create multiple employees and print their details.
6. Write a class **Car** with private members **brand** and **model**. Provide setter and getter methods. In **main()**, create an array of cars and use the methods to assign and print their values.
7. Implement a class **Circle** with a private data member **radius**. Provide setters and getters, and an additional method **getArea()** that uses the getter to calculate the area.
8. Create a class **Account** with private members **accountNumber** and **balance**. Provide setter and getter methods. In **main()**, ensure that account details can only be accessed through these methods.
9. Write a class **Temperature** with a private member **celsius**. Provide **setCelsius()** and **getFahrenheit()** methods to convert the stored temperature to Fahrenheit.
10. Define a class **University** with private members **name** and **ranking**. Provide setters and getters. Demonstrate in **main()** that private data members cannot be accessed directly, but only via the methods.