Module 3: Object Oriented Programming

Case Study

Things you will learn in this case-study:

1. Creating a Class Template/Object Generator
2. Assign object values through initialize method
3. Accessing the private data directly through Active Bindings
4. Multilevel Inheritance

Back Ground:

Real Estate Companies like Godrej Reality spend billions on customer acquisition and retention. This spending is in the areas of marketing, advertisement, sales staff etc. They are facing a lot of competition in the sector and with all the regulatory compliances coming into place, the task has become even more daunting.
As a result, these companies are using analytics to understand their data about customers and transactions to have a focused approach towards the entire process. This is where they require your support.

Overview of the problem:

In this project, you will play the role of Data Scientist who would be carrying out Descriptive Analytics for the company and come up with insights about What the Data is talking about?

Objective:

Based on the knowledge you acquired in Module 4, you are expected to complete the below mentioned activities by using the dplyr function, which is the most widely used library in R for data manipulation.

You should do the following:

1. Load the required packages

2. Create a new class template/object generator with the name "Football_Generator", it should comprise of these components:
   - Three private data members:"Player_Name", "Player_Club" & "Player_Salary"
   - Three public functions: "set_name()", "set_club()" and "set_salary()"

3. For the above class template create two new objects and assign values to the private data members with the public functions

4. Create a new class generator with the name "Movie_Generator", it should comprise of these components:
    - Three private data members: "Movie_Name", "Protagonist_Name", "Movie_Budget"

5. For the above class template, assign values to the private data members using initialize method.

6. Create a new class generator with the name "Vegetable_Generator", it should comprise of these components:
    - Two private data members: "Vegetable_Name", "Vegetable_Cost"

7. For the above class template, create two new objects and assign values to the private data members by using Active Bindings

Submission should include the following:

1. Answers to the above questions. Print the first five rows as output wherever applicable.
2. Summary on approach should be documented and submitted for each question.
3. R Code File.