

## Day 6

### Question 1

Create a class Game with the following using the concept of **Encapsulation**:

- Instance variables: name and version (*make the variables private*)
- Parameterized constructor with name as parameter
  - Assign the value of name in instance variable using this keyword
- Getter (accessor) methods for both name and version
- Setter method for version.
- print(): print the values of all the variables

Create a class CounterStrike **inheriting** Game class with the following:

- Instance variable: numberOfPlayers (*make the variables private*)
- Parameterized constructor with name and numberOfPlayers as parameters
  - Call super constructor by passing name as parameter
  - Assign the value of numberOfPlayers in instance variable using this keyword
- Create getter and setter methods for numberOfPlayers
- print()
  - Call super class's print method
  - Print the value of numberOfPlayers

Create a class GameStarter with the following:

- Main method:
  - Create an object of CounterStrike (*You have to input the name and numberOfPlayers value using Scanner*)
  - Call setter method of version. (*Input version name*)
  - Call print method

## Question 2

1. Create a class Bank (Super class) with the following method:
  - displayInterestRate() - print the interest rate percentage
  
2. Create another class NICAsiaBank (Subclass of Bank) with the following method:
  - displayInterestRate() - print the interest rate percentage
  - printMobileBankingStatus() – print the message mobile banking has been enabled
  
3. Create another class NabilBank (Subclass of Bank) with the following method
  - displayInterestRate() - print the interest rate percentage
  - printSmsBankingStatus() – print the message Sms banking has been disabled
  
4. Create another class NepalRastraBank with the following method:
  - printDetail(Bank bank)
    - Call displayInterestRate() method
    - If bank is an instance of NicAsiaBank,
      - ♣ **Downcast** bank to NicAsiaBank and then call printMobileBankingStatus()
    - If bank is an instance of NabilBank,
      - ♣ **Downcast** bank to NabilBank and then call printSmsBankingStatus()
  - main method
    - Create object of Bank and call printDetail() method with bank object as parameter
    - Create object of NICAsiaBank and assign it to super class (Bank) reference (**Upcasting**). Now call printDetail () with NICAsiaBank object as parameter
    - Create object of NabilBank and assign it to super class (Bank) reference (**Upcasting**). Now call printDetail () with NabilBank object as parameter.