Practice 16 [Aggregation]

1. Create a class named **Instructor**. It contains a first and last name and an office number. The ***init*** method requires all three data members as arguments. Create a class named **Classroom**. It contains a building and a room number. The ***init*** method requires both data members as arguments. Create a class named **CollegeCourse**. A *CollegeCourse* contains an *Instructor*, a *Classroom*, and a number of credits. Its ***init*** method requires a first and last name of an instructor, the instructor's office number, a Classroom building and room number, and a number of credits. Each of these classes contains a function that displays an object's values. Write a *main* function that instantiates at least two *CollegeCourse* objects and displays their values.

2. Create a class named **PlayingCard**. It contains four fields—a value and suit in both numeric and string format (for example, 12 might be "Queen") for a standard playing card. Each *PlayingCard* is assigned its values upon construction. Create another class named **Hand** (set of five cards distributed to the player) which represents a standard card game *hand* which consists of five *PlayingCards*. The ***init*** method of *Hand,* should randomly assign a value to each of its five PlayingCards, with no duplicates. In other words, there can be multiple 4's and multiple hearts in a Hand, but only one four of hearts. Write a main function that declares a Hand and displays its values.

   Note: If luckily or unluckily you are not familiar with cards, click here

3. Write a class **Date** with three data members day, month & year. The ***init*** method requires all three data members. Write getter/ setter functions and str function in Date class. Write Employee class having data members:
   - employee number
   - name
   - designation
   - joining date (a required object of class date)
   - salary
   - last promotion date (will be a null string, if employee has not promoted after joining, otherwise, last promotion date will be stored)

   Write init method with seven data members (employee no, name, designation, day, month, year and salary). Write str function to print data members, for last promotion date, check if null string is stored, return appropriate message, otherwise, print last promotion date. Write method to set promotion date.

   Write a main function, create object of class employee and print it. Set promotion date and again print the object.