Classes:

1. **People: abstract base class**
2. **Properties:**
   * ID Card: is a number and has 9 digits
   * Fullname: contains alphabet character and space character, most 50 characters.
   * Birthday: 1-1-1900 <= birthday <= Today
   * Address: not be blank
   * Email: can be blank or be valid email address.
   * Phone
3. **Methods:**
   * ToString(): override from ToString() method of “object” object, return a string that contains information about people (full name, age and phone)
   * getAge(): return age of people
   * inputPeople(): input all information of People
   * printInfo(): abstract method, display information about full name, birthday and other information
4. **Constructors:**
   * No parameter
   * 1 parameter set value for full name
   * 6 parameters set value for 6 properties
5. **Student: inherits from People class**
   1. **Properties:**
   * RollNo: from A12001-A12999
   * ClassNo: CP / DI / DM + year + month + G/H/I/J/K/F/M + xx

Example: CP201210G17 or DM201301M05

* 1. **Indexers:**
  + Marks: all of marks: mark in from 0 to 100
  1. **Methods:**
  + getAvgMark: calculate the average marks of the student
  + inputStudent(): input all information of Student (inherits from inputPeople() method of base class)
  + printInfo(): inherits from base class, display information about full name, birthday, rollno, classno
  1. **Constructors:**
  + No parameter and 1 parameter: inherit from constructors base class
  + 8 parameters set value for 8 properties: inherits from constructors base class (which has 6 parameters) and modify itself.

1. **Teacher: inherits from People class**
   1. **Properties:**
   * TeacherCode: has a number from A0001 to A9999 or B0001-B9999
   * JoinedDate: the date that the teacher started teaching.
   1. **Indexers:**
   * Subjects: all of subjects that the teacher can teach
   1. **Methods:**
   * getWorkedYears: calculate number of years that the teacher has taught
   * inputTeacher(): input all information of Teacher (inherits from inputPeople() method of base class)
   * printInfo(): inherits from base class, display information about full name, number of year old, workedyear
   1. **Constructors:**
   * No parameter and 1 parameter: inherit from constructors base class
   * 8 parameters set value for 8 properties: inherits from constructors base class (which has 6 parameters) and modify itself.
2. **Subject:** 
   1. **Properties:**
   * SubjectCode: 6 alphabet characters
   * SubjectName: has most 50 characters
   * Theory: number of theory lessons 0<=Theory <=100
   * Practice: number of practice lessons 0<= Practice <=100
   1. **Methods:**
   * getTotalLessons: return total number of lessons (theory and practice)
   * ToString(): override from ToString() method of “object” object, return a string that contains information about subject code, subject name and total number of lessons.
   * inputSubject(): enter the information of subject.
   * printInfo(): display all of information about subject.
   1. **Constructors:**
   * No parameter
   * 4 parameters set value for 4 properties
3. **Marks: abstract base class**
   1. **Properties:**
   * Marks: 0<= Marks <=100
   * PassLevel: 40<= Marks <=100
   1. **Methods:**
   * checkPass(): return true if the marks is pass, otherwise return false
   * getBonus(): abstract method, return true or false
4. **IMarks: interface**

**Methods:**

* + inputMarks(): input information about marks
  + printMarks(): print information about marks

1. **Marks\_Subject: inherits from Imarks and Marks class**
   1. **Properties:**
   * RollNo: from A12001-A12999
   * StudentName: contains alphabet character and space character, most 50 characters.
   * Subject: not be blank
   * TestTime: 1 <= TestTime <=4
   1. **Methods:**
   * ToString(): override from ToString() method of “object” object, return a string that contains information about name of student, subject and marks.
   1. **Constructors:**
   * No parameter
   * With parameters to set all values of properties’ Marks class

**Main propram:**

Create a menu to allow user do all of functions of the program:

* Manage student: Input student, calculate the average mark and display information of student
* Manage teacher: Input teacher, display the number of years that the teacher has worked, display information of teacher
* Manage Subject: Input subject, calculate total number of lessons and display all of information about the subject
* Manage Marks: Input subject, calculate total number of lessons and display all of information about the subject, display the pass status of student.