**import** java.util.ArrayList;

**public** **class** Course {

**private** String name;

**private** Int credits;

**private** Int rem\_seats;

**private** ArrayList <Student> roster = **new** ArrayList<Student>();

**private** Int cnum;

**public** Course (String name, Int credits, Int cnum) {

**this**.name = name;

**this**.credits = credits;

**this**.rem\_seats = rem\_seats;

**this**.roster = roster;

**this**.cnum = cnum;

}

**public** Boolean addStudent(Student s) {

**for**(Student temp : roster) {

String temp\_name = temp.getName();

String s\_name = s.getName();

**if**(!temp\_name.equalsIgnoreCase(s\_name)) {

roster.add(s);

}

}

**return** **true**;

}

**public** String generateRoster(){

String roster\_str = "";

**for** (Student i : roster) {

String i\_name = i.getName();

roster\_str = i\_name + "\n";

}

**return** roster\_str;

}

**public** Double averageGPA() {

**int** j = 0;

**double** total\_GPA = 0.0;

**for**(Student i : roster) {

Double iGPA = i.getGPA();

total\_GPA += iGPA;

j = j + 1;

}

**double** avg\_GPA = total\_GPA / j;

**return** avg\_GPA;

}

**public** String toString() {

String course\_num = **this**.cnum.toString();

String c = **this**.credits.toString();

**return** course\_num + " " + c;

}

**public** Int getRemainingSeats(){

Int i = 0;

**for**(Student s : roster) {

i ++;

}

**return** i;

}

**public** String getName(){

**return** **this**.name;

}

}

**import** java.lang.Math;

**import** java.util.ArrayList;

**public** **class** Student {

**private** String fname;

**private** String lname;

**private** Int stuID;

**private** Int credits;

**private** Double GPA;

**private** ArrayList<Int> all\_qscores = **new** ArrayList<Int>();

**public** Student (String fname, String lname, Int stuID){

**this**.fname = fname;

**this**.lname = lname;

**this**.stuID = stuID;

**this**.credits = credits;

}

**public** String getName(String fname, String lname){

String name = fname + " " + lname;

**return** name;

}

**public** String getName(){

**return** **this**.fname + " " + **this**.lname;

}

**public** **void** settName(String name) {

String name\_lst [] = name.split(" ");

**this**.fname = name\_lst[0];

**this**.lname = name\_lst[1];

// return this.fname; this.lname;

}

**public** Int getStudentID () {

**return** **this**.stuID;

}

**public** Double getGPA() {

**return** **this**.GPA;

}

**public** Int getCredits() {

**return** **this**.credits;

}

**public** String getClassStanding() {

String standing = "";

**if** (credits < 30) {

standing = "Freshmen";

}

**else** **if** (credits >= 30 && credits < 60) {

standing = "Sophomore";

}

**else** **if** (credits >= 60 && credits < 90) {

standing ="Junior";

}

**else** **if** (credits >= 90) {

standing = "Senior";

}

**return** standing;

}

**public** **void** submitGrade(Int g, Int c) {

Int q\_score = (**int**) (g \* c);

all\_qscores.add(q\_score);

Double total\_score = (**double**) 0;

**for**(**int** i = 0; i < all\_qscores.size(); i ++) {

total\_score += all\_qscores.indexOf(i);

}

**this**.GPA = total\_score/**this**.credits;

Math.*rint*(**this**.GPA);

}

**public** **void** submitGrade(Double g, Int c) {

Int q\_score = (**int**) (g \* c);

all\_qscores.add(q\_score);

Double total\_score = (**double**) 0;

**for**(**int** i = 0; i < all\_qscores.size(); i ++) {

total\_score += all\_qscores.indexOf(i);

}

**this**.GPA = total\_score/**this**.credits;

Math.*rint*(**this**.GPA);

}

**public** Student(Student one, Student two) {

**this**.fname = one.getName();

**this**.lname = two.getName();

**this**.stuID = one.getStudentID() + two.getStudentID();

**this**.GPA = (one.getGPA() + two.getGPA()) / 2;

**if** (one.getCredits() > two.getCredits()){

**this**.credits = one.getCredits();

}

**else** {

**this**.credits = two.getCredits();

}

}

**public** Student(Student one) {

**this**.fname = one.getName();

**this**.stuID = one.getStudentID();

**this**.GPA = one.getGPA();

**this**.credits = one.getCredits();

}

**public** Double computeTuition(){

Double tution = **this**.credits \* 0.00075;

Math.*rint*(tution);

**return** tution;

}

**public** Student createLegacy (Student one, Student two){

Student child = **new** Student(one, two);

**return** child;

}

**public** Student createLegacy (Student one){

Student child = **new** Student(one);

**return** child;

}

**public** String toString(){

String ID = **this**.stuID.toString();

**return** **this**.lname + "," + " " + **this**.fname + " " + ID;

}

}