```
import java.util.*;

class stud {
   int regno;
   String name;
   GregorianCalendar doj;
   short sem;
   float gpa, cgpa;
   static int count = 1;

   stud() {
      count++;
   }

   String calcYear(String doj) {
      int c = 0, i = 0;
      int ind = -1;
      while (c != 2) {
         if (doj.charAt(i) == '/') {
            c += 1;
         } else {
            ind = i + 1;
         }
         i += 1;
      }
      return (doj.substring(ind + 1, doj.length()));
   }

   String changeName(String name) {
      int flag = 0;
      String temp = "", out = "";
      char initial = ' ';
      for (int i = 0; i < name.length(); i++) {
         if (Character.isUpperCase(name.charAt(i))) {
            flag = 1;
            initial = name.charAt(i);
         }
         if (flag == 1) {
            temp = temp + name.charAt(i);
         }
         if (name.charAt(i) == ' ') {
            flag = 0;
            out = out + initial + ". ";
            temp = "";
         }
         if (i == name.length() - 1) {
            out = out + temp;
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        }
    }
    return out;
}

stud(String nam, int d, int m, int y, short semester, float g, float cg) {
    GregorianCalendar greg = new GregorianCalendar(y, m, d);
    String s = Integer.toString(greg.get(1));
    String st = s.substring(2, 4);
    String n = Integer.toString(count);
    String regst = st + n;
    regno = Integer.parseInt(regst);
    name = changeName(nam);
    doj = greg;
    sem = semester;
    gpa = g;
    cgpa = cg;
    count += 1;
}

void disp() {
    System.out.println("Name: " + name + "\nRegistration No: " + regno);
    System.out.println("Date of Joining: " + doj.get(5) + "/" + doj.get(2) + "/" + doj.get(1));
    System.out.println("Semester: " + sem + "\nGPA: " + gpa + "\nCGPA: " + cgpa);
}

void sortName(stud stds[], int n) {
    stud s = new stud();
    for (int i = 0; i < n; i++) {
        for (int j = i; j < n; j++) {
            if (((stds[i].name).compareTo((stds[j].name))) > 0) {
                s = stds[i];
                stds[i] = stds[j];
                stds[j] = s;
            }
        }
    }
}

void sortSem(stud stds[], int n) {
    stud temp = new stud();
    for (int i = 0; i < n - 1; i++) {
        for (int j = i; j < n; j++) {
            if (stds[i].sem < stds[j].sem) {
                temp = stds[i];
                stds[i] = stds[j];
                stds[j] = temp;
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            } else if (stds[i].sem == stds[j].sem) {
                if (stds[i].cgpa < stds[j].cgpa) {
                    temp = stds[i];
                    stds[i] = stds[j];
                    stds[j] = temp;
                }
            }
        }
    }
}

class q345 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter number of students. (Minimum 5) ");
        int n = sc.nextInt();
        sc.nextLine();
        stud stds[] = new stud[n];
        for (int i = 0; i < n; i++) {
            System.out.println("\nEnter details for student number " + (i + 1));
            System.out.print("Enter your name ");
            String na = sc.nextLine();
            System.out.print("Enter day of DOJ ");
            int d = sc.nextInt();
            System.out.print("Enter month of DOJ ");
            int m = sc.nextInt();
            System.out.print("Enter year of DOJ ");
            int y = sc.nextInt();
            System.out.print("Enter your semester ");
            short semester = sc.nextShort();
            System.out.print("Enter your gpa ");
            float g = sc.nextFloat();
            System.out.print("Enter your cgpa ");
            float cg = sc.nextFloat();
            sc.nextLine();
            stds[i] = new stud(na, d, m, y, semester, g, cg);
        }

        System.out.println("\nDetails of all students:\n");
        for (int i = 0; i < n; i++) {
            System.out.println("\nDetails for student number " + (i + 1));
            stds[i].disp();
        }

        System.out.print("Enter a character ");
        char ch = sc.next().charAt(0);
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      System.out.println("The students with their name starting with the character are: ");
      for (int i = 0; i < n; i++) {
         if (stds[i].name.charAt(0) == ch) {
            stds[i].disp();
         }
      }
      System.out.println("1.Sort by Sem and CGPA\n2.Sort by name\n3.Exit");
      int input = sc.nextInt();

      if (input == 1) {
         stds[0].sortSem(stds, n);
         System.out.println("Students sorted by sem and cgpa:\n");
         for (int i = 0; i < n; i++) {
            stds[i].disp();
         }

      } else if (input == 2) {
         stds[0].sortName(stds, n);
         System.out.println("Students sorted by name:\n");
         for (int i = 0; i < n; i++) {
            stds[i].disp();
         }
      } else {
         System.out.println("Bye Bye");
      }
   }
}
```

```
import java.util.*;

class q4 {
   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);
      String s, num = "";
      System.out.println("Enter a number");
      s = sc.next();
      int l = s.length(), c = 0;
      for (int i = l - 1; i >= 0; i--) {
         num = s.charAt(i) + num;
         c++;
         if (c == 3 && i != 0) {
            num = "," + num;
            c = 0;
         }
      }
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        System.out.println("Reformatted number is " + num);
    }
}
```

```
import java.util.Scanner;

class Employee
{
    String Ename;
    int Eid;

    Employee(String Ename,int Eid)
    {
        this.Ename=Ename;
        this.Eid=Eid;
    }

    void formatEmployeeName()
    {
        char ch[]=new char[Ename.length()];
        for(int i=0;i<Ename.length();i++)
        {
            ch[i]=Ename.charAt(i);
        }

        if(ch[0]>=97)
        ch[0]=(char)((int)ch[0]-32);

        for(int i=1;i<ch.length;i++ )
        {

            if(ch[i]==' ')
             if(ch[i+1]>=97)
              {ch[i+1]=(char)((int)ch[i+1]-32);
              }
        }
        String temp=new String();
        for(char x:ch)
         temp=temp+x;
        Ename=temp;
    }

    String generatemail()
    {
      int count=1,space=0;
      for(int i=0;Ename.charAt(i)!=' ';)
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      {
       i++;
       if(Ename.charAt(i)==' ')
        {
         space=i;
         count+=Ename.length()-(i+1);
        }
      }


      char ch[]=new char[count];
      if(ch[0]<=90)
      ch[0]=(char)((int)Ename.charAt(0)+32);
      else
      ch[0]=Ename.charAt(0);
      int c=1;
      for(int i=space+1;i<=Ename.length()&c<count;i++)
      {

                if(Ename.charAt(i)<=90)
                 ch[c]=(char)((int)Ename.charAt(i)+32);

                else
                  ch[c]=Ename.charAt(i);
                c++;

      }
       String temp="";
       for(char x:ch)
        temp=temp+x;
       temp+="@example.com";
       return temp;
    }

    void display()
    {
       System.out.println("Name: "+Ename+"\n");
       System.out.println("Id: "+Eid+"\n");
    }
}

class EmployeeDemo
{
    public static void main(String[] args)
    {
       Scanner sc=new Scanner(System.in);
       System.out.println(("Enter the number of employees: "));
```

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        int N=sc.nextInt();
        Employee E[]=new Employee[N];
        System.out.println("Enter each Employees details: \n");
        for(int i=0;i<N;i++)
        {
           System.out.print("Employee"+(i+1)+":\n");
           System.out.print("Name: ");
           sc.nextLine();
           String name=sc.nextLine();
           System.out.print("Eid: ");
           int Id=sc.nextInt();
           E[i]=new Employee(name,Id);
        }

        System.out.println("The Employee details are: \n");
        for(int i=0;i<N;i++)
        {
           System.out.print("\nEmployee "+(i+1)+":\n");
           E[i].formatEmployeeName();
           E[i].display();
           System.out.println("Email: "+E[i].generatemail());

        }
     }
}
```