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package giaiBTlab8;

import java.util.Scanner;

abstract class Person{
	protected String code, name;
	protected int rank;
	public Person(){code =name =""; this.rank=0;}


	public Person(String code, String name, int rank) {
		this.code= code; this.name=name; this.rank=rank;
	}

	public String getCode() {return code;}
	public String getName() {return name;}
	public int getRank() {return rank;}
	public void display() {
		System.out.println("Person code:" + code);
		System.out.println("Person name:" + name);
		System.out.println("Person Rank:" + rank);
	}
	public abstract String description();
	void input() {
		Scanner kb= new Scanner(System.in);
		System.out.println("nhap ma so:"); code= kb.next(); kb.nextLine();
		System.out.println("nhap ten:"); name= kb.nextLine();
		System.out.println("nhap rank:"); rank= kb.nextInt();
	}
}


class Student extends Person{
	private String DP;
	private int YoG;

	void input() {
		super.input();
		Scanner kb=new Scanner(System.in);
		System.out.println("Nhap chuong trinh: ");
		DP=kb.nextLine();
		System.out.println("Nhap nam tot nghiep: ");
		YoG=kb.nextInt();
	}

	public void display() {
		super.display();
		System.out.println("\t Chuong trinh hoc: "+DP);
		System.out.println("\t Nam tot nghiep: "+YoG);
	}
	public String description() {
		String t="";
		switch(rank) {
			case 0: t= t+ "None"; break;
			case 1: t= t+ "Preshman"; break;
			case 2: t= t+ "Sophomore"; break;
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                        case 3: t= t+ "Junior"; break;
                        case 4: t= t+ "Senior"; break;
                        case 5: t= t+ "Graduate"; break;
                        case 6: t= t+ "Masters Postgraduate"; break;
                        case 7: t= t+ "PhD Postgraduate\r\n"; break;
                }
                return t;

        }
}
class Professor extends Person{
        private String khoa;

        void input() {
                super.input();
                Scanner kb= new Scanner(System.in);
                System.out.println("Nhap khoa cong tac: ");
                khoa=kb.nextLine();
        }

        public void display() {
                super.display();

                System.out.println("\t Khoa cong tac: "+khoa);
        }

        public String description() {
                String t="";
                switch(rank)
                {
                        case 0: t= t+ "None"; break;
                        case 1: t= t+ "Assistant Professor"; break;
                        case 2: t= t+ "Asociate Professor"; break;
                        case 3: t= t+ "Professor"; break;
                        case 4: t= t+ "Assistant Teaching Professor"; break;
                        case 5: t= t+ "Asociate Teaching Professor"; break;
                        case 6: t= t+ "Teaching Professor";

                }
                return t;

        }
}
public class Peoplelist {
        int n;
        Person []a;
        Scanner kb= new Scanner(System.in);
        void input() {
                System.out.println("Nhap so luong nhan vien: ");
                n=kb.nextInt();
                a=new Person[n];
                for(int i=0;i<n;i++) {
                        System.out.println("Nhap nguoi thu "+ (i+1) +":");
                        System.out.println("Sinh vien hay giao su? (0/ <>0");
                        int tl=kb.nextInt();
                        if(tl==0) { a[i]=new Student();}
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                        else {
                                a[i] = new Professor();
                        }
                        a[i].input();

                }
        }
        public void display() {
                for(Person x:a) {

                        x.display();
                }
        }

        double tbRank() {
                double k=0;
                for(Person x:a) {
                        k+=x.getRank();
                }
                return k/n;
        }

        void maxRank() {
                int v=n-1;
                for(int i=n-1;i>= 0;i--) {
                        if(a[i].getRank()>a[v].getRank()) v=i;
                }
                System.out.println("Nguoi co rank cao cuoi cung la: ");
                a[v].display();
        }
        public static void main(String[] args) {
                // TODO Auto-generated method stub
                Peoplelist m=new Peoplelist();
                m.input();
                m.display();
                System.out.println("Trung binh rank: "+m.tbRank());
                m.maxRank();
                System.out.println("\n XONG!!");
        }

}
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