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//GetBirthYear Method
public static int getBirthYear (Employable e, int currYr) {

    return currYr - ((Person) e).getAge();

}

//Tester
import java.util.*;
public class inheritanceTester {

    public static void main(String[] args) {
        // TODO Auto-generated method stub

        //ALL PART 1a
        Person p = new Person ("Billybobjoe", 26, 'M');
        System.out.println("Info for person p: " + p);
        Teacher t1 = new Teacher ("English", 5, "Martha", 26, 'F');
        System.out.println("Info for Teacher t1: " + t1);
        Student stu = new Student ("John", 10, 'M', "200", 3.8);
        System.out.println("Info for Student stu: " + stu);
        CollegeStudent cs = new CollegeStudent (12, "Math", 2021, "Billy", 24, 'M', "401", 3.9);
        System.out.println("Info for college student cs: " + cs);


        System.out.println("\nThe info for cs is ");
        cs.getInfo();

        //ALL PART 1b
        Person p1 = new Student ("Jack", 8, 'M', "503", 3.9);
        Person p2 = new CollegeStudent (13, "CompSci", 2022, "Mary", 23, 'F', "399", 4.0);
        Person p3 = new Teacher ("Science", 3, "Jill", 29, 'F');


        System.out.println("\nThe info for p1 ");
        pInfo(p1);
        System.out.println("\nThe info for p2 ");
        pInfo(p2);
        System.out.println("\nThe info for p3 ");
        pInfo(p3);

        //ALL PART 2
        CollegeStudent c1 = new CollegeStudent (12, "Math", 2021, "Alex", 24, 'M', "401", 3.9);
        System.out.println("\nThe info for college student c1: " + c1);
        CollegeStudent c2 = new CollegeStudent (12, "Math", 2021, "Bob", 24, 'M', "401", 3.9);
        System.out.println("Info for college student c2: " + c2);
        CollegeStudent c3 = new CollegeStudent (12, "Math", 2021, "Cathy", 24, 'F', "401", 3.9);
        System.out.println("Info for college student c3: " + c3);


        System.out.print("The alphabetized order is: ");
        if (c1.getName().compareTo(c2.getName()) < 0) {
            if (c3.getName().compareTo(c1.getName()) < 0) {
                System.out.print(c3.getName() + " " + c1.getName() + " " + c2.getName());
            }

            else if (c3.getName().compareTo(c2.getName()) > 0) {
                System.out.print(c1.getName() + " " + c2.getName() + " " + c3.getName());
            }

            else {
                System.out.print(c1.getName() + " " + c3.getName() + " " + c2.getName());
            }
        }
    }
}

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    }

    if (c2.getName().compareTo(c1.getName()) < 0) {
        if (c3.getName().compareTo(c2.getName()) < 0) {
            System.out.print(c3.getName() + " " + c2.getName() + " " + c1.getName());
        }

        else if (c3.getName().compareTo(c1.getName()) > 0) {
            System.out.print(c2.getName() + " " + c1.getName() + " " + c3.getName());
        }

        else {
            System.out.print(c2.getName() + " " + c3.getName() + " " + c1.getName());
        }
    }

    //ALL PART 3
    //CollegeStudent (int year, String major, int projectedYearOfGraduation, String nam, int age, char gender, String
ID, double gpa)

    CollegeStudent test1 = new CollegeStudent (8, "Math", 2021, "Benny", 21, 'M', "182", 3.4);
    System.out.println("\n\nInfo for college student test1: " + test1 + "\nEmployability: " + test1.isEmployable());
    CollegeStudent test2 = new CollegeStudent (9, "History", 2021, "Henry", 14, 'M', "668", 3.8);
    System.out.println("\n\nInfo for college student test2: " + test2 + "\nEmployability: " + test2.isEmployable());
    CollegeStudent test3 = new CollegeStudent (9, "Chemistry", 2021, "Jose", 20, 'M', "990", 2.1);
    System.out.println("\n\nInfo for college student test3: " + test3 + "\nEmployability: " + test3.isEmployable());

    //Teacher (String sub, int yrs, String nam,int age, char gen)
    Teacher test4 = new Teacher ("Arts", 6, "Sam", 26, 'M');
    System.out.println("\n\nInfo for teacher test4: " + test4 + "\nEmployability: " + test4.isEmployable());
    Teacher test5 = new Teacher ("Music", 7, "Mike", 20, 'M');
    System.out.println("\n\nInfo for teacher test5: " + test5 + "\nEmployability: " + test5.isEmployable());
    Teacher test6 = new Teacher ("Writing", 3, "Duke", 26, 'M');
    System.out.println("\n\nInfo for teacher test6 " + test6 + "\nEmployability: " + test6.isEmployable());

    //ALL PART 4
    Employable c = new CollegeStudent (8, "Math", 2021, "Angelo", 21, 'M', "238", 3.4);
    Employable t = new Teacher ("Arts", 6, "Nancy", 26, 'F');
    System.out.println (((CollegeStudent) c).getName() + ", Birth year: " + getBirthYear(c,2020));
    System.out.println (((Teacher) t).getName() + ", Birth year: " + getBirthYear(t,2020));

}

public static void printInfo (Person P) {
    System.out.print("\nThe name is " + P.getName() + "\nThe age is " +
    P.getAge() + "\nThe gender is " + P.getGender());
}

public static int getBirthYear (Employable e, int currYr) {

    return currYr - ((Person) e).getAge();

}

}

//Console
Info for person p: Billybobjoe, age:26, gender:M
Info for Teacher t1: Martha, age:26, gender:F, English, 5 years experience
Info for Student stu: John, age:10, gender:M, StudentID: 200, GPA: 3.8

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Info for college student cs: Billy, age:24, gender:M, StudentID: 401, GPA: 3.9, year is 12, major is Math, graduated 2021

The info for cs is
Name is Billy
Age is 24
Gender is M
ID is 401
GPA is 3.9
Year is 12
Major is Math
Graduating in 2021

The info for p1

The name is Jack
The age is 8
The gender is M

The info for p2

The name is Mary
The age is 23
The gender is F

The info for p3

The name is Jill
The age is 29
The gender is F

Info for college student c1: Alex, age:24, gender:M, StudentID: 401, GPA: 3.9, year is 12, major is Math, graduated 2021
Info for college student c2: Bob, age:24, gender:M, StudentID: 401, GPA: 3.9, year is 12, major is Math, graduated 2021
Info for college student c3: Cathy, age:24, gender:F, StudentID: 401, GPA: 3.9, year is 12, major is Math, graduated 2021
The alphabetized order is: Alex Bob Cathy

Info for college student test1: Benny, age:21, gender:M, StudentID: 182, GPA: 3.4, year is 8, major is Math, graduated 2021
Employability: true

Info for college student test2: Henry, age:14, gender:M, StudentID: 668, GPA: 3.8, year is 9, major is History, graduated 2021
Employability: false

Info for college student test3: Jose, age:20, gender:M, StudentID: 990, GPA: 2.1, year is 9, major is Chemistry, graduated 2021
Employability: false

Info for teacher test4: Sam, age:26, gender:M, Arts, 6 years experience
Employability: true

Info for teacher test5: Mike, age:20, gender:M, Music, 7 years experience
Employability: false

Info for teacher test6 Duke, age:26, gender:M, Writing, 3 years experience
Employability: false
Angelo, Birth year: 1999
Nancy, Birth year: 1994