***MULTI LEVEL INHERITANCE***

**PROGRAM:**

class Patient {

String name;

int age;

String hospitalId;

String disease;

double treatmentCost;

void setPatientDetails(String name, int age, String hospitalId, String disease, double treatmentCost) {

this.name = name;

this.age = age;

this.hospitalId = hospitalId;

this.disease = disease;

this.treatmentCost = treatmentCost;

}

void performDuty() {

System.out.println("Follow health protocols.");

}

void accessCityService() {

System.out.println("Accessing hospital and treatment services.");

}

void displayPatientInfo() {

System.out.println("\n--- Patient Details ---");

System.out.println("Name: " + name);

System.out.println("Age: " + age);

System.out.println("Hospital ID: " + hospitalId);

System.out.println("Disease: " + disease);

System.out.println("Treatment Cost: Rs" + treatmentCost);

}

}

class InsuredPatient extends Patient {

String insuranceProvider;

double claimAmount;

void setInsuranceDetails(String insuranceProvider, double claimAmount) {

this.insuranceProvider = insuranceProvider;

this.claimAmount = claimAmount;

}

void accessCityService() {

System.out.println("Accessing hospital and treatment services.");

System.out.println("Accessing Insurance claim portal: " + insuranceProvider);

}

void displayInsuranceInfo() {

System.out.println("\n--- Insurance Details ---");

System.out.println("Insurance Provider: " + insuranceProvider);

System.out.println("Claim Amount: Rs" + claimAmount);

}

public static void main(String[] args) {

InsuredPatient ip = new InsuredPatient();

ip.setPatientDetails("Diya", 20, "HOSP123", "Heart disease", 500000);

ip.setInsuranceDetails("LIC Health", 450000);

ip.displayPatientInfo();

ip.displayInsuranceInfo();

ip.performDuty();

ip.accessCityService();

}

}

**output:**

--- Patient Details ---

Name: Diya

Age: 20

Hospital ID: HOSP123

Disease: Heart disease

Treatment Cost: 500000.0

--- Insurance Details ---

Insurance Provider: LIC Health

Claim Amount: 450000.0

Follow health protocols.

Accessing hospital and treatment services.

Accessing Insurance claim portal: LIC Health