**Lab Report**

**Course Tittle:** Object Oriented Programming

**Course Code:** CSE 215

**Experiment No:** 03

**Experiment Name:** Usages of Super Keyword in terms of Inheritance

**Submitted To:**

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Problem: 01

package Student\_Employee;

public class Person {

String name;  
 int id;  
  
 Person(String name, int id) {

this.name = name;  
 this.id = id;

}  
  
 void displayInfo() {

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

}

}  
  
public class Student extends Person {

String qualification;  
  
 Student(String name, int id, String qualification) {

super(name, id);  
 this.qualification = qualification;

}  
  
 @Override  
 void displayInfo() {

super.displayInfo();  
 System.out.println("Qualification: " + qualification);

}

}  
  
public class Employee extends Person {

String email;  
 String phoneNumber;  
  
 Employee(String name, int id, String email, String phoneNumber) {

super(name, id);  
 this.email = email;  
 this.phoneNumber = phoneNumber;

}

@Override

void displayInfo() {

super.displayInfo();  
 System.out.println("Email: " + email);  
 System.out.println("Phone Number: " + phoneNumber);

}

}

public class Main {

public static void main(String[] args) {

Student student = new Student("Md Raduan Ahamed", 0242220005101839, "Bachelor's in Computer Science");

Employee employee = new Employee("Mr Abdur Rahman Rohan", 2001250001, "abdrohan0001@gamil.com", "01600000254");

System.out.println("Student Information:");  
 student.displayInfo();

System.out.println("\nEmployee Information:");  
 employee.displayInfo();

}

}

Output:

Student Information:

Name: Md Raduan Ahamed

ID: 0242220005101839

Qualification: Bachelor's in Computer Science

Employee Information:

Name: Mr Abdur Rahman Rohan

ID: 2001250001

Email: abdrohan0001@gamil.com

Phone Number: 01600000254

Problem: 02

package Animal\_Sound;

public class Animal {

String sound;  
  
 Animal(String sound) {

this.sound = sound;

}  
  
 void makeSound() {

System.out.println("Animal sound: " + sound);

}

}  
  
public class Dog extends Animal {

Dog(String sound) {

super(sound);

}  
  
 void makeSound() {

super.makeSound();  
 System.out.println("Dog sound: " + sound);

}

}  
  
public class Main {

public static void main(String[] args) {

Dog dog = new Dog("Woof Woof!!!");

dog.makeSound();

}

}

Output:

Animal sound: Woof Woof!!!

Dog sound: Woof Woof!!!

Problem: 03

Package Vehicle\_Car;

Public class Vehicle {

String brand;  
  
 Vehicle(String brand) {

this.brand = brand;

}  
  
 void display() {

System.out.println("This is a " + brand + " vehicle.");

}

}  
  
public class Car extends Vehicle {

int year;  
  
 Car(String brand, int year) {

super(brand); this.year = year;

}  
  
 void display() {

super.display();System.out.println("It was manufactured in " + year);

}

}  
  
public class Main {

public static void main(String[] args) {

Car myCar = new Car("Range Rover",1970);  
 myCar.display();

}

}

Output:

This is a Range Rover vehicle.

It was manufactured in 1970

Problem: 04

Package Mobile\_Company;

public class Mobile {

String brand;  
 String color;  
  
 Mobile(String brand, String color) {

this.brand = brand;  
 this.color = color;

}  
  
 void displaySpecs() {

System.out.println("Brand: " + brand);  
 System.out.println("Color: " + color);

}

}  
  
public class Smartphone extends Mobile {

int camera;  
 double price;  
  
 Smartphone(String brand, String color, int camera, double price) {

super(brand, color);  
 this.camera = camera;  
 this.price = price;

}  
  
 @Override

void displaySpecs() {

super.displaySpecs();  
 System.out.println("Camera (MP): " + camera);  
 System.out.println("Price: BDT" + price);

}

}  
  
public class FeaturePhone extends Mobile {

int battery;  
  
 FeaturePhone(String brand, String color, int battery) {

super(brand, color);  
 this.battery = battery;

}

@Override

void displaySpecs() {

super.displaySpecs();  
 System.out.println("Battery (mAh): " + battery);

}

}

public class Main {

public static void main(String[] args) {

Smartphone smartphone = new Smartphone("Samsung", "Black", 48, 59900.00);

FeaturePhone featurePhone = new FeaturePhone("Pixel", "Silver", 4500);

System.out.println("Smartphone Specs:");  
 smartphone.displaySpecs();

System.out.println("\nFeature Phone Specs:");  
 featurePhone.displaySpecs();

}

}

Output:

Smartphone Specs:

Brand: Samsung

Color: Black

Camera (MP): 48

Price: BDT 59900.00

Feature Phone Specs:

Brand: Pixel

Color: Silver

Battery (mAh): 4500

Problem: 05

Package Apartment\_Project;

public class Building {

String flat = "Apartment";  
 String floor = "Ground";  
  
 Building() {

System.out.println("Inside Building constructor");

}

}  
  
public class House extends Building {

String door = "Front Door";  
 String window = "Living Room Window";  
  
 House() {

super();   
 System.out.println("Inside House constructor");

}  
  
 void display() {

System.out.println("Type of flat: " + flat);  
 System.out.println("Floor: " + floor);  
 System.out.println("Door: " + door);  
 System.out.println("Window: " + window);

}

}  
  
public class Main {

public static void main(String[] args) {

House myHouse = new House();  
 myHouse.display();

}

}

Output:

Inside Building constructor

Inside House constructor

Type of flat: Apartment Floor: Ground Door: Front Door

Window: Living Room Window