**Day 9\_Java Assignment**

**1. Problem Description:**

What is Inheritance and what are all the types of Inheritance?

What and all will be supported by Java?

What and all will not be supported by Java?

**2. My Solution:**

* One class acquiring properties and behaviors of another class can referred as Inheritance.
* Inheritance promotes code reusability.
* To achieve Inheritance, we use extends keyword.

**Types of Inheritance:**

* Single
* Multi-Level
* Hierarchical
* Multiple
* Hybrid

**Single:**

Base class

A

Derived Class of A

B

**class** one {

**public** **void** print () {

System.***out***.println("Class one print function");

}

}

**class** two **extends** one {

**public** **void** print () {

System.***out***.println("Class two print function");

}

}

**Multi-Level:**

Base Class

A

Derived Class of A

B

Derived Class of B

C

**class** one {

**public** **void** print () {

System.***out***.println("Class one print function");

}

}

**class** two **extends** one {

**public** **void** print () {

System.***out***.println("Class two print function");

}

}

**class** three **extends** two {

**public** **void** print() {

System.***out***.println("Class three print function");

}

}

**Hierarchical:**

A

D

C

B

**class** one {

**public** **void** print () {

System.***out***.println("Class one print function");

}

}

**class** two **extends** one {

**public** **void** print () {

System.***out***.println("Class two print function");

}

}

**class** three **extends** one {

**public** **void** print() {

System.***out***.println("Class three print function");

}

}

**Multiple:**

B

A

C

* Java support multiple inheritance only through interfaces.

Ex 1:

**interface** One {

**void** printOne();

}

**interface** Two {

**void** printTwo();

}

**interface** Three **extends** One,Two {

**void** printThree();

}

**class** child **implements** Three {

@Override

**public** **void** printOne() {

}

@Override

**public** **void** printTwo() {

}

@Override

**public** **void** printThree() {

}

}

Ex 2:

**interface** One {

**void** printOne();

}

**interface** Two {

**void** printTwo();

}

**class** child **implements** One, Two {

@Override

**public** **void** printOne() {

}

@Override

**public** **void** printTwo() {

}

}

**Hybrid:**

D

B

A

C

**interface** One {

**public** **void** printOne();

}

**interface** Two **extends** One {

**public** **void** printTwo();

}

**interface** Three **extends** One {

**public** **void** printThree();

}

**interface** four **extends** Two, Three {

**public** **void** printFour();