**Assignment**

**Date: 30/03/2022**

(Inheritance 1)

class A{

int p=1;

int q=2;

int r=3;

int s=4;

{

System.out.println("Class A: init block");

}

A() {

System.out.println("Class A: constructor");

}

void ma() {

System.out.println("Class A: ma");

}

void mb() {

System.out.println("Class A: mb");

}

void mc() {

System.out.println("Class A: mc");

}

void md() {

System.out.println("Class A: md");

}

}

class B extends A

{

int p=10;

int q=20;

int r=30;

{

System.out.println("Class B: init block");

}

B() {

System.out.println("Class B: constructor");

}

void mb() {

System.out.println("Class B: mb");

}

}

class C extends A

{

int p=40;

int q=50;

{

System.out.println("Class C: init block");

}

C()

{

System.out.println("Class C: constructor");

}

void mc()

{

System.out.println("Class C: mc");

}

}

class D extends B

{

int p=100;

{

System.out.println("Class D: init block");

}

D()

{

System.out.println("Class D: constructor");

}

void md()

{

System.out.println("Class D: md");

}

}

class inheritance

{

public static void main(String args[])

{

/\*

A a1=new B();

System.out.println("A a1 b(): "+a1.p);

System.out.println("A a1 b(): "+a1.q);

System.out.println("A a1 b(): "+a1.r);

System.out.println("A a1 b(): "+a1.s);

a1.ma(); //class A:ma as mb not present in child

a1.mb(); //class B:mb

\*/

/\*

A a2=new C();

System.out.println("A a2 b(): "+a2.p);

System.out.println("A a2 b(): "+a2.q);

System.out.println("A a2 b(): "+a2.r);

System.out.println("A a2 b(): "+a2.s);

a2.ma();

a2.mc();

\*/

A a3=new D();

System.out.println("A a3 b(): "+a3.p);

System.out.println("A a3 b(): "+a3.q);

System.out.println("A a3 b(): "+a3.r);

System.out.println("A a3 b(): "+a3.s);

a3.ma();

a3.mc();

a3.md();

}

}