//abstract class example

**abstract** **class** AbsEx{

**abstract** **void** m1();

**abstract** **void** m2();

**abstract** **void** m3();

**void** m4() {

System.***out***.println("m4 method");

}

}

//if any class unable to override all abstract methods then create one more sub class

**abstract** **class** Main1 **extends** AbsEx {

**void** m1() {

System.***out***.println("m1 method");

}

}

**abstract** **class** Main2 **extends** Main1 {

**void** m2() {

System.***out***.println("m2 method");

}

}

**class** Main **extends** Main2{

**void** m3() {

System.***out***.println("m3 method");

}

**public** **static** **void** main(String[] args) {

//Test1 t=new Test1();

Main t=**new** Main();

t.m1();

t.m2();

t.m3();

t.m4();

//Parent p=new Child();

AbsEx a=**new** Main();

a.m1();a.m2();

a.m3();a.m4();

}

}

//abstract methods can have any return type and any number of arguments.

//abstract methods can overload

**abstract** **class** AbsEx{

**abstract** **int** m1(**int** a);

**abstract** **int** m1(**int** a,**int** b);

**void** m4() {

System.***out***.println("m4 method");

}

}

**class** Main **extends** AbsEx{

**int** m1(**int** a) {

**return** a;

}

**int** m1(**int** a,**int** b) {

**return** a+b;

}

**public** **static** **void** main(String[] args) {

//Test1 t=new Test1();

Main t=**new** Main();

**int** b=t.m1(5);

System.***out***.println(b);

**int** c=t.m1(3,4);

System.***out***.println(c);

t.m4();

//Parent p=new Child();

}

}

//abstract class have constructor,variables too.

**abstract** **class** AbsConst{

**int** a=10;

AbsConst(){

System.***out***.println("Abstarct class constr");

}

}

**class** Main **extends** AbsConst{

Main(){

**super**();

System.***out***.println("Main class constr");

}

**public** **static** **void** main(String[] args) {

//Test1 t=new Test1();

Main t=**new** Main();

}

}

{

System.***out***.println("instance block");

}

//abstract class can have static methods,static block,instance block,instance method,final method

**abstract** **class** AbsConst{

**int** a=10;

**public** **abstract** **void** m1();

**static** **void** m2() {

System.***out***.println("static method");

}

{

System.***out***.println("instance block");

}

**static**

{

System.***out***.println("static block");

}

AbsConst(){

System.***out***.println("Abstarct class constr");

}

}

**class** Main **extends** AbsConst{

**void** m1() {

System.***out***.println("m1 method");

}

Main(){

**super**();

System.***out***.println("Main class constr");

}

**public** **static** **void** main(String[] args) {

//Test1 t=new Test1();

Main t=**new** Main();

t.m1();

*m2*();

System.***out***.println(t.a);

}

}

**//we can’t declare abstract method as final,private or static.**