**Array: Basic example**

**package** arrays;

**public** **class** ArrayExample {

}

// Pass array as object in method.

/\* public static int getSum(int nums[]) {

int sum = 0;

for(int val : nums)

//sum = sum + val;

sum += val;

return sum;

}

public static void main (String[] args) {

int values[] = {45,76,34,78,223};

int total = getSum(values);

System.out.println(total);

}

}\*/

// Basic of array

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

int values[] = {45,76,34,78,223};

int size = values.length;

for (int index =0; index<size; index++) {

System.out.println(values[index]);

}

for(int val : values)

//System.out.println(values[val]);

System.out.println(values);

}

}

\*/

**Another Example of Array:**

**package** arrays;

**import** dryfruit.Fruit;

**public** **class** ArrayExampleObject {

**private** **static** **void** showFruitNames(Fruit fruitData[]) {

**for** (Fruit fr :fruitData ) {

System.***out***.println(fr.getName().toUpperCase());

}

}

**private** **static** String[] getFruitNames(Fruit fruitData[]) {

**int** size = fruitData.length;

String fruitNames[] = **new** String[size];

**int** index = 0;

**for**( Fruit fr : fruitData) {

String name = fr.getName().toUpperCase();

fruitNames[index] = name;

index++;

}

**return** fruitNames;

}

**public** **static** String[] getfruitcolors(Fruit getfrcolr[]) {

**int** size = getfrcolr.length;

String getFruitColors[] = **new** String[size];

**int** index = 0;

**for**(Fruit fr : getfrcolr ) {

String color = fr.getColor().toUpperCase();

getFruitColors[index] = color;

index++;

}

**return** getFruitColors;

}

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

Fruit fruits[] = **new** Fruit[3];

fruits[0] = **new** Fruit();

fruits[1] = **new** Fruit("Apple", "Red");

fruits[2] = **new** Fruit("Orange", "Orange");

String fName[] = *getFruitNames*(fruits);

**for** (String fname : fName)

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

String fcolor[] = *getfruitcolors*(fruits);

**for** (String fColor : fcolor)

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

System.***out***.println(fruits[0].getName());

System.***out***.println(fruits[0].getColor());

System.***out***.println(fruits[1].getName());

System.***out***.println(fruits[1].getColor());

System.***out***.println(fruits[2].getName());

System.***out***.println(fruits[2].getColor());

*showFruitNames*(fruits);

/\* fruits f1 = new Fruit();

fruits f2 = new Fruit("Apple", "Red");

fruits f3 = new Fruit("Orange", "Orange");

Fruit FruitBasket[] = {f1, f2,f3};\*/

}

}

**Fruit Class :**

**package** dryfruit;

**public** **class** Fruit {

**private** String name, color;

**public** Fruit() {

name = "mango";

color = "yellow";

}

**public** Fruit(String name, String color) {

**super**();

**this**.name = name;

**this**.color = color;

}

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** String getColor() {

**return** color;

}

**public** **void** setColor(String color) {

**this**.color = color;

}

}

**FruitMain :**

**package** dryfruit;

**public** **class** FruitMain {

**public** **static** Fruit changeFruit(Fruit oldFruit) {

oldFruit.setName("Apple");

oldFruit.setColor("Red");

**return** oldFruit;

}

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

Fruit f1 = **new** Fruit();

//Printing value before change.

System.***out***.println(f1.getName());

System.***out***.println(f1.getColor());

Fruit changedFruit = *changeFruit*(f1);

//Printing value after change.

System.***out***.println(changedFruit.getName());

System.***out***.println(changedFruit.getColor());

}

}

/\*

public static void changeFruit(Fruit oldFruit) {

oldFruit.setName("Apple");

oldFruit.setColor("Red");

}

public static void main(String[] args) {

Fruit f1 = new Fruit();

//Printing value before change.

System.out.println(f1.getName());

System.out.println(f1.getColor());

changeFruit(f1);

//Printing value after change.

System.out.println(f1.getName());

System.out.println(f1.getColor());

}

}\*/

**Containment:**

**package** containment;

**public** **class** Contact {

**private** String mobileNo, emailAddress;

**public** Contact() {

mobileNo = "45656564";

emailAddress = "sdsdf@gmail.com";

}

**public** Contact(String mobileNo, String emailAddress) {

**this**.mobileNo = mobileNo;

**this**.emailAddress = emailAddress;

}

**public** String getMobileNo() {

**return** mobileNo;

}

**public** **void** setMobileNo(String mobileNo) {

**this**.mobileNo = mobileNo;

}

**public** String getEmailAddress() {

**return** emailAddress;

}

**public** **void** setEmailAddress(String emailAddress) {

**this**.emailAddress = emailAddress;

}

}

**package** containment;

**public** **class** CreditCard {

**private** String cardNo, bank;

**private** **int** creditLimit;

**public** CreditCard() {

cardNo = "46466";

bank = "HDFC";

creditLimit = 75000;

}

**public** CreditCard(String cardNo, String bank, **int** creditLimit) {

**this**.cardNo = cardNo;

**this**.bank = bank;

**this**.creditLimit = creditLimit;

}

**public** String getCardNo() {

**return** cardNo;

}

**public** **void** setCardNo(String cardNo) {

**this**.cardNo = cardNo;

}

**public** String getBank() {

**return** bank;

}

**public** **void** setBank(String bank) {

**this**.bank = bank;

}

**public** **int** getCreditLimit() {

**return** creditLimit;

}

**public** **void** setCreditLimit(**int** creditLimit) {

**this**.creditLimit = creditLimit;

}

}

**package** containment;

**public** **class** Customer {

**private** **int** customerId;

**private** String name;

**private** Contact contactDetails; // object of another class

**private** CreditCard cardDetails; // object of another class

**public** Customer() {

customerId = 1001;

name = "Dipti";

contactDetails = **new** Contact();

}

**public** Customer(**int** customerId, String name, Contact contactDetails, CreditCard cardDetails) {

**this**.customerId = customerId;

**this**.name = name;

**this**.contactDetails = contactDetails;

**this**.cardDetails = cardDetails;

}

**public** **int** getCustomerId() {

**return** customerId;

}

**public** **void** setCustomerId(**int** customerId) {

**this**.customerId = customerId;

}

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** Contact getContactDetails() {

**return** contactDetails;

}

**public** **void** setContactDetails(Contact contactDetails) {

**this**.contactDetails = contactDetails;

}

**public** CreditCard getCardDetails() {

**return** cardDetails;

}

**public** **void** setCardDetails(CreditCard cardDetails) {

**this**.cardDetails = cardDetails;

}

}

**package** containment;

**public** **class** CustomerMain {

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

// creating customer without credit card.

Customer c1 = **new** Customer();

// Creating a customer with credit card.

Contact contact2 = **new** Contact("4535345", "ere@gmail.com");

CreditCard creditcard2 = **new** CreditCard("5453", "HSBC", 60000);

Customer c2 = **new** Customer(1002, "Bill", contact2, creditcard2);

Contact ct = c1.getContactDetails();

System.***out***.println(ct.getEmailAddress());

String ct2 = c1.getContactDetails().getEmailAddress();

System.***out***.println(ct2);

System.***out***.println(c2.getContactDetails().getEmailAddress());

CreditCard cc = c1.getCardDetails();

**if** (cc != **null**)

System.***out***.println(cc.getCreditLimit());

**else**

System.***out***.println("No Credit card");

}

}

1. **Single Inheritance :**

**package** Inheritence;

**public** **class** Player {

**private** String name;

**private** **int** age;

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** **int** getAge() {

**return** age;

}

**public** **void** setAge(**int** age) {

**this**.age = age;

}

}

**package** Inheritence;

**public** **class** CricketPayer **extends** Player {

**private** **int** runs;

**public** **int** getRuns() {

**return** runs;

}

**public** **void** setRuns(**int** runs) {

**this**.runs = runs;

}

}

**package** Inheritence;

**public** **class** PlayerMain {

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

CricketPayer cp = **new** CricketPayer();

cp.setName("Sachin T");

cp.setAge(55);

cp.setRuns(145366);

}

}

**2. Single Inheritance with constructor: Invoke – down to top , execution top to bottom**

**package** Inheritence;

**public** **class** Player {

**private** String name;

**private** **int** age;

**public** Player() {

name = "Sania";

age = 50;

System.***out***.println("In Player Class");

}

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** **int** getAge() {

**return** age;

}

**public** **void** setAge(**int** age) {

**this**.age = age;

}

}

**package** Inheritence;

**public** **class** CricketPayer **extends** Player {

**private** **int** runs;

**public** CricketPayer() {

runs = 5000;

System.***out***.println("In CricketPlayer Class");

}

**public** **int** getRuns() {

**return** runs;

}

**public** **void** setRuns(**int** runs) {

**this**.runs = runs;

}

}

**package** Inheritence;

**public** **class** PlayerMain {

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

CricketPayer cp = **new** CricketPayer();

/\* cp.setName("Sachin T");

cp.setAge(55);

cp.setRuns(145366);\*/

System.***out***.println(cp.getName());

System.***out***.println(cp.getAge());

System.***out***.println(cp.getRuns());

}

}

**Super Keyword with parameterized constructor:**

**package** Inheritence;

**public** **class** Player {

**private** String name;

**private** **int** age;

**public** Player() {

name = "Sania";

age = 50;

System.***out***.println("In Player Class");

}

**public** Player(String name, **int** age) {

**this**.name = name;

**this**.age = age;

}

**public** Player(**int** age, String name) {

**this**.age = age;

**this**.name = name;

}

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** **int** getAge() {

**return** age;

}

**public** **void** setAge(**int** age) {

**this**.age = age;

}

}

**package** Inheritence;

**public** **class** CricketPayer **extends** Player {

**private** **int** runs;

**public** CricketPayer() {

runs = 5000;

System.***out***.println("In CricketPlayer Class");

}

**public** CricketPayer(String name, **int** age, **int** runs) {

**super**(name, age);

**this**.runs = runs;

}

**public** **int** getRuns() {

**return** runs;

}

**public** **void** setRuns(**int** runs) {

**this**.runs = runs;

}

}

**package** Inheritence;

**public** **class** PlayerMain {

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

CricketPayer cp = **new** CricketPayer();

CricketPayer cp1 = **new** CricketPayer("Dhoni", 50, 34300);

/\* cp.setName("Sachin T");

cp.setAge(55);

cp.setRuns(145366);\*/

System.***out***.println(cp.getName());

System.***out***.println(cp.getAge());

System.***out***.println(cp.getRuns());

System.***out***.println(cp1.getName());

System.***out***.println(cp1.getAge());

System.***out***.println(cp1.getRuns());

}

}

Polymorphism : Method Overriding.

**package** overriding;

**public** **class** Shape {

**private** String name;

**public** Shape() {

name = "shape1";

}

**public** Shape(String name) {

**this**.name = name;

}

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** **float** getArea() {

**return** 0.0f;

}

}

**package** overriding;

**public** **class** Rectangle **extends** Shape {

**private** **float** lenght, breadth;

**public** Rectangle() {

lenght = 5;

breadth = 6;

}

**public** Rectangle(String name, **float** lenght, **float** breadth) {

**super**(name);

**this**.lenght = lenght;

**this**.breadth = breadth;

}

**public** **float** getLenght() {

**return** lenght;

}

**public** **void** setLenght(**float** lenght) {

**this**.lenght = lenght;

}

**public** **float** getBreadth() {

**return** breadth;

}

**public** **void** setBreadth(**float** breadth) {

**this**.breadth = breadth;

}

**public** **float** getArea() {

**return** lenght \* breadth;

}

}

**package** overriding;

**public** **class** Circle **extends** Shape {

**private** **float** radius;

**public** Circle() {

radius = 4;

}

**public** **float** getRadius() {

**return** radius;

}

**public** **void** setRadius(**float** radius) {

**this**.radius = radius;

}

**public** Circle(String name, **float** radius) {

**super**(name);

**this**.radius = radius;

}

@Override **public** **float** getArea() { // Override is for compiler to check for the override but this is not mandatory.

**return** 3.14f \*radius \* radius;

}

}

**package** overriding;

**public** **class** ShapeMain {

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

Shape shapes[] = **new** Shape[4];

shapes[0] = **new** Rectangle();

shapes[1] = **new** Circle("Shape 2", 5);

shapes[2] = **new** Rectangle("Shape 3", 2, 5);

shapes[3] = **new** Circle("Shape 4", 6);

System.***out***.println("Printing area of all 4 shapes");

**for** (Shape sh : shapes) {

**float** area = sh.getArea();

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

}

}

}

**toString : Used existing class**

**package** containment;

**public** **class** Contact {

**private** String mobileNo, emailAddress;

**public** Contact() {

mobileNo = "45656564";

emailAddress = "sdsdf@gmail.com";

}

**public** Contact(String mobileNo, String emailAddress) {

**this**.mobileNo = mobileNo;

**this**.emailAddress = emailAddress;

}

**public** String getMobileNo() {

**return** mobileNo;

}

**public** **void** setMobileNo(String mobileNo) {

**this**.mobileNo = mobileNo;

}

**public** String getEmailAddress() {

**return** emailAddress;

}

**public** **void** setEmailAddress(String emailAddress) {

**this**.emailAddress = emailAddress;

}

@Override // toString overriding with Object class , if we will not have this method then the print method return in customer main class will return address.

To add this Source – Generate -- toString

**public** String toString() {

**return** "Contact [mobileNo=" + mobileNo + ", emailAddress=" + emailAddress + "]";

}

}

**package** containment;

**public** **class** CreditCard {

**private** String cardNo, bank;

**private** **int** creditLimit;

**public** CreditCard() {

cardNo = "46466";

bank = "HDFC";

creditLimit = 75000;

}

**public** CreditCard(String cardNo, String bank, **int** creditLimit) {

**this**.cardNo = cardNo;

**this**.bank = bank;

**this**.creditLimit = creditLimit;

}

**public** String getCardNo() {

**return** cardNo;

}

**public** **void** setCardNo(String cardNo) {

**this**.cardNo = cardNo;

}

**public** String getBank() {

**return** bank;

}

**public** **void** setBank(String bank) {

**this**.bank = bank;

}

**public** **int** getCreditLimit() {

**return** creditLimit;

}

**public** **void** setCreditLimit(**int** creditLimit) {

**this**.creditLimit = creditLimit;

}

}

**package** containment;

**public** **class** Customer {

**private** **int** customerId;

**private** String name;

**private** Contact contactDetails; // object of another class

**private** CreditCard cardDetails; // object of another class

**public** Customer() {

customerId = 1001;

name = "Dipti";

contactDetails = **new** Contact();

}

**public** Customer(**int** customerId, String name, Contact contactDetails, CreditCard cardDetails) {

**this**.customerId = customerId;

**this**.name = name;

**this**.contactDetails = contactDetails;

**this**.cardDetails = cardDetails;

}

**public** **int** getCustomerId() {

**return** customerId;

}

**public** **void** setCustomerId(**int** customerId) {

**this**.customerId = customerId;

}

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** Contact getContactDetails() {

**return** contactDetails;

}

**public** **void** setContactDetails(Contact contactDetails) {

**this**.contactDetails = contactDetails;

}

**public** CreditCard getCardDetails() {

**return** cardDetails;

}

**public** **void** setCardDetails(CreditCard cardDetails) {

**this**.cardDetails = cardDetails;

}

}

**package** containment;

**public** **class** CustomerMain {

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

// creating customer without credit card.

Customer c1 = **new** Customer();

// Creating a customer with credit card.

Contact contact2 = **new** Contact("4535345", "ere@gmail.com");

CreditCard creditcard2 = **new** CreditCard("5453", "HSBC", 60000);

System.***out***.println(contact2); // this is implicit call, for explicit call System.***out***.println(contact2.toString());

Customer c2 = **new** Customer(1002, "Bill", contact2, creditcard2);

Contact ct = c1.getContactDetails();

System.***out***.println(ct.getEmailAddress());

String ct2 = c1.getContactDetails().getEmailAddress();

System.***out***.println(ct2);

System.***out***.println(c2.getContactDetails().getEmailAddress());

CreditCard cc = c1.getCardDetails();

**if** (cc != **null**)

System.***out***.println(cc.getCreditLimit());

**else**

System.***out***.println("No Credit card");

}

}

**Inherited toString:**

**package** Inheritence;

**public** **class** Player {

**private** String name;

**private** **int** age;

**public** **int** x;

**public** Player() {

name = "Sania";

age = 50;

System.***out***.println("In Player Class");

}

**public** Player(String name, **int** age) {

**this**.name = name;

**this**.age = age;

}

**public** Player(**int** age, String name) {

**this**.age = age;

**this**.name = name;

}

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** **int** getAge() {

**return** age;

}

**public** **void** setAge(**int** age) {

**this**.age = age;

}

@Override

**public** String toString() {

**return** "Player [name=" + name + ", age=" + age + "]";

}

}

**package** Inheritence;

**public** **class** Player {

**private** String name;

**private** **int** age;

**public** **int** x;

**public** Player() {

name = "Sania";

age = 50;

System.***out***.println("In Player Class");

}

**public** Player(String name, **int** age) {

**this**.name = name;

**this**.age = age;

}

**public** Player(**int** age, String name) {

**this**.age = age;

**this**.name = name;

}

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** **int** getAge() {

**return** age;

}

**public** **void** setAge(**int** age) {

**this**.age = age;

}

@Override

**public** String toString() {

**return** "Player [name=" + name + ", age=" + age + "]";

}

}

**package** Inheritence;

**public** **class** PlayerMain {

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

//CricketPayer cp = new CricketPayer();

CricketPayer cp1 = **new** CricketPayer("Dhoni", 50, 34300);

System.***out***.println(cp1);

/\* System.out.println(cp.getName());

System.out.println(cp.getAge());

System.out.println(cp.getRuns());\*/

System.***out***.println(cp1.getName());

System.***out***.println(cp1.getAge());

System.***out***.println(cp1.getRuns());

}

}

Equals(Object)

**package** containment;

**public** **class** Contact {

**private** String mobileNo, emailAddress;

**public** Contact() {

mobileNo = "45656564";

emailAddress = "sdsdf@gmail.com";

}

**public** Contact(String mobileNo, String emailAddress) {

**this**.mobileNo = mobileNo;

**this**.emailAddress = emailAddress;

}

**public** String getMobileNo() {

**return** mobileNo;

}

**public** **void** setMobileNo(String mobileNo) {

**this**.mobileNo = mobileNo;

}

**public** String getEmailAddress() {

**return** emailAddress;

}

**public** **void** setEmailAddress(String emailAddress) {

**this**.emailAddress = emailAddress;

}

@Override

**public** String toString() {

**return** "Contact [mobileNo=" + mobileNo + ", emailAddress=" + emailAddress + "]";

}

@Override

**public** **int** hashCode() {

**final** **int** prime = 31;

**int** result = 1;

result = prime \* result + ((emailAddress == **null**) ? 0 : emailAddress.hashCode());

result = prime \* result + ((mobileNo == **null**) ? 0 : mobileNo.hashCode());

**return** result;

}

@Override

**public** **boolean** equals(Object obj) {

**if** (**this** == obj)

**return** **true**;

**if** (obj == **null**)

**return** **false**;

**if** (getClass() != obj.getClass())

**return** **false**;

Contact other = (Contact) obj;

**if** (emailAddress == **null**) {

**if** (other.emailAddress != **null**)

**return** **false**;

} **else** **if** (!emailAddress.equals(other.emailAddress))

**return** **false**;

**if** (mobileNo == **null**) {

**if** (other.mobileNo != **null**)

**return** **false**;

} **else** **if** (!mobileNo.equals(other.mobileNo))

**return** **false**;

**return** **true**;

}

}

**package** containment;

**public** **class** CreditCard {

**private** String cardNo, bank;

**private** **int** creditLimit;

**public** CreditCard() {

cardNo = "46466";

bank = "HDFC";

creditLimit = 75000;

}

**public** CreditCard(String cardNo, String bank, **int** creditLimit) {

**this**.cardNo = cardNo;

**this**.bank = bank;

**this**.creditLimit = creditLimit;

}

**public** String getCardNo() {

**return** cardNo;

}

**public** **void** setCardNo(String cardNo) {

**this**.cardNo = cardNo;

}

**public** String getBank() {

**return** bank;

}

**public** **void** setBank(String bank) {

**this**.bank = bank;

}

**public** **int** getCreditLimit() {

**return** creditLimit;

}

**public** **void** setCreditLimit(**int** creditLimit) {

**this**.creditLimit = creditLimit;

}

}

**package** containment;

**public** **class** Customer {

**private** **int** customerId;

**private** String name;

**private** Contact contactDetails; // object of another class

**private** CreditCard cardDetails; // object of another class

**public** Customer() {

customerId = 1001;

name = "Dipti";

contactDetails = **new** Contact();

}

**public** Customer(**int** customerId, String name, Contact contactDetails, CreditCard cardDetails) {

**this**.customerId = customerId;

**this**.name = name;

**this**.contactDetails = contactDetails;

**this**.cardDetails = cardDetails;

}

**public** **int** getCustomerId() {

**return** customerId;

}

**public** **void** setCustomerId(**int** customerId) {

**this**.customerId = customerId;

}

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** Contact getContactDetails() {

**return** contactDetails;

}

**public** **void** setContactDetails(Contact contactDetails) {

**this**.contactDetails = contactDetails;

}

**public** CreditCard getCardDetails() {

**return** cardDetails;

}

**public** **void** setCardDetails(CreditCard cardDetails) {

**this**.cardDetails = cardDetails;

}

}

**package** containment;

**public** **class** CustomerMain {

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

// creating customer without credit card.

Customer c1 = **new** Customer();

// Creating a customer with credit card.

Contact contact2 = **new** Contact("4535345", "ere@gmail.com");

Contact contact3 = **new** Contact("4535345", "ere@gmail.com");

System.***out***.println(contact2.equals(contact3));

CreditCard creditcard2 = **new** CreditCard("5453", "HSBC", 60000);

//System.out.println(contact2);

Customer c2 = **new** Customer(1002, "Bill", contact2, creditcard2);

Contact ct = c1.getContactDetails();

System.***out***.println(ct.getEmailAddress());

String ct2 = c1.getContactDetails().getEmailAddress();

System.***out***.println(ct2);

System.***out***.println(c2.getContactDetails().getEmailAddress());

CreditCard cc = c1.getCardDetails();

**if** (cc != **null**)

System.***out***.println(cc.getCreditLimit());

**else**

System.***out***.println("No Credit card");

}

}

Abstract Class:

**package** abstract\_classes;

**public** **abstract** **class** MusicalInstrument {

**private** String id;

**private** **int** cost;

**public** **abstract** **void** play();

**public** MusicalInstrument() {

id = "m1";

cost = 15000;

}

**public** MusicalInstrument(String id, **int** cost) {

**this**.id = id;

**this**.cost = cost;

}

**public** String getId() {

**return** id;

}

**public** **void** setId(String id) {

**this**.id = id;

}

**public** **int** getCost() {

**return** cost;

}

**public** **void** setCost(**int** cost) {

**this**.cost = cost;

}

}

**package** abstract\_classes;

**public** **class** Piano **extends** MusicalInstrument {

**private** **int** strings;

**public** Piano() {

strings = 48;

}

**public** Piano(String id, **int** cost, **int** strings) {

**super**(id, cost);

**this**.strings = strings;

}

@Override

**public** **void** play() {

System.***out***.println("playing Piano with " + strings + " strings");

}

}

**package** abstract\_classes;

**public** **class** Tabla **extends** MusicalInstrument {

**private** String surface;

**public** Tabla() {

surface = "Hard";

}

**public** Tabla(String id, **int** cost, String surface) {

**super**(id, cost);

**this**.surface = surface;

}

**public** String getSurface() {

**return** surface;

}

**public** **void** setSurface(String surface) {

**this**.surface = surface;

}

@Override

**public** **void** play() {

System.***out***.println("Playing a table with: " +surface + "surface.");

}

}

**package** abstract\_classes;

**public** **class** MusicalInstrumentMain {

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

MusicalInstrument instruments[] = **new** MusicalInstrument[2];

instruments[0] = **new** Piano();

instruments[1] = **new** Tabla("M2", 7500, "Medium");

**for** (MusicalInstrument ins : instruments)

ins.play();

}

}