1. Package trong Java

package com.vietjack.utils;

public class MathUtils {

public static int sum(int n){

return n\*(n+1)/2;

}

public static int factorial(int n){

if(n==0){

return 0;

}

if(n==1){

return 1;

}

return n\*factorial(n-1);

}

public static int fabonacci(int n){

if (n==1){

return 1;

}

if (n==2){

return 1;

}

return (fabonacci(n-1)+fabonacci(n-2));

//1 1 2 3 5

}

}

package com.vietjack;

import com.vietjack.utils.MathUtils;

/\*import java.util.ArrayList;

import java.util.Scanner;\*/

//java.io

public class Main {

public static void main(String[] args) {

System.out.println("Tong tu 1 den 10:"+MathUtils.sum(10));

System.out.println("Giai thua cua 10:"+MathUtils.factorial(10));

System.out.println("10 so fabonacci dau tien");

for(int i=1;i<=10;i++){

System.out.println(MathUtils.fabonacci(i));

}

}

}

2.

Autoboxing and Unboxing:

**class** BoxingExample1{

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

**int** a=50;

        Integer a2=**new** Integer(a);//Boxing

        Integer a3=5;//Boxing

        System.out.println(a2+" "+a3);

 }

}

      3.Generic Java

**class** BoxingExample1{

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

**int** a=50;

        Integer a2=**new** Integer(a);//Boxing

        Integer a3=5;//Boxing

        System.out.println(a2+" "+a3);

 }

}

      4.Static Java

package com.vietjack;

public class Student {

private String name;

private static int numbers;

public Student(String name){

this.name=name;

System.out.println("Sinh vien moi ten:"+this.name);

numbers++;

System.out.println("So luong sv trong lop:"+numbers);

}

public String getName(){

return this.name;

}

public static int getNumbers(){

return numbers;

}

}

package com.vietjack;

public class Main {

private static int x;

public static void changeX(){

x=10;

}

public static void main(String[] args) {

System.out.println(x);

changeX();

/\*Student st1=new Student("ha");

Student st2=new Student("hoa");

Student st3=new Student("hoang");

System.out.println("-------");

System.out.println(st1.getName()+"---"+st1.getNumbers());

System.out.println(st2.getName()+"---"+st2.getNumbers());

System.out.println(st3.getName()+"---"+st3.getNumbers());

System.out.println(Student.getNumbers());\*/

//System.out.println(Student.getName());

}

}

5. Final trong Java

**class** Bike9{

**final** **int** speedlimit=90;//final variable

**void** run(){

  speedlimit=400;

 }

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

 Bike9 obj=**new**  Bike9();

 obj.run();

 }

}//end of class

## Java final method

**class** Bike{

**final** **void** run(){System.out.println("running");}

}

**class** Honda **extends** Bike{

**void** run(){System.out.println("running safely with 100kmph");}

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

   Honda honda= **new** Honda();

   honda.run();

   }

}

## Java final class

**final** **class** Bike{}

**class** Honda1 **extends** Bike{

**void** run(){System.out.println("running safely with 100kmph");}

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

  Honda1 honda= **new** Honda();

  honda.run();

  }

}

Thực hành bài toán đặt ghế trong rạp hát.

package com.vietjack;

public class Seat {

private String seatNumber;

private boolean reserved;

public boolean reserve(){

if(!this.reserved){

this.reserved=true;

System.out.println("Ghe: "+seatNumber+" da duoc dat");

return true;

}else{

return false;

}

}

public Seat(String seatNumber){

this.seatNumber=seatNumber;

this.reserved=false;

}

public String getSeatNumber() {

return seatNumber;

}

public void setSeatNumber(String seatNumber) {

this.seatNumber = seatNumber;

}

public boolean isReserved() {

return reserved;

}

public void setReserved(boolean reserved) {

this.reserved = reserved;

}

}

package com.vietjack;

import java.util.ArrayList;

public class Cinema {

private String cinemaName;

private ArrayList<Seat> seats = new ArrayList<Seat>();

public Cinema(String cinemaName, int numRow, int seatPerRow){

this.cinemaName=cinemaName;

int lastRow='A'+numRow-1;

for(char row='A';row<=lastRow;row++){

for(int seatNum=1;seatNum<=seatPerRow;seatNum++){

Seat seat=new Seat(row+String.format("%02d", seatNum));

seats.add(seat);

}

}

}

public boolean reserveSeat(String seatNumber){

Seat requestSeat=null;

for(Seat seat:seats){

if(seat.getSeatNumber().equals(seatNumber)){

requestSeat=seat;

break;

}

}

if(requestSeat==null){

System.out.println("Ghe ban dat khong ton tai");

return false;

}

return requestSeat.reserve();

}

public void printCinemaSeats(){

for(Seat seat:seats){

System.out.println(seat.getSeatNumber());

}

}

public String getCinemaName() {

return cinemaName;

}

public void setCinemaName(String cinemaName) {

this.cinemaName = cinemaName;

}

public ArrayList<Seat> getSeats() {

return seats;

}

public void setSeats(ArrayList<Seat> seats) {

this.seats = seats;

}

}

package com.vietjack;

public class Main {

public static void main(String[] args) {

Cinema cinema=new Cinema("CGV",8,12);

cinema.printCinemaSeats();

if(cinema.reserveSeat("A03")){

System.out.println("Tra tien cho viec dat ghe");

}else{

System.out.println("Ghe da duoc dat");

}

System.out.println("------------");

if(cinema.reserveSeat("A04")){

System.out.println("Tra tien cho viec dat ghe");

}else{

System.out.println("Ghe da duoc dat");

}

}

}