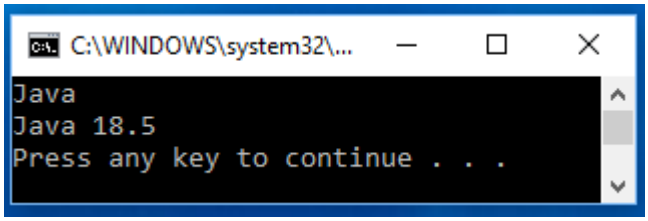
ΠΡΟΤΕΙΝΟΜΕΝΕΣ ΛΥΣΕΙΣ ΑΣΚΗΣΕΩΝ
Υπερφόρτωση *(Overloading)* – **Υπέρβαση** *(Overriding)* - **Upcasting – Downcasting**

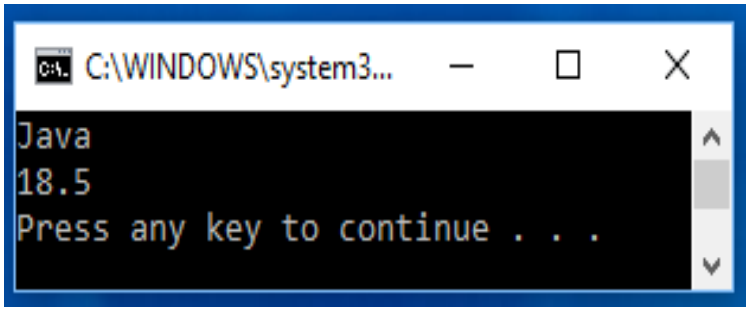
ΑΣΚΗΣΗ-1η (Υπερφόρτωση μεθόδων *(method overloading)* - Διαφορετικό πλήθος παραμέτρων)

```
class Overloading1 {
   public void Emfanise(String s)
    {System.out.println(s); }
   public void Emfanise(String s, double i)
    {System.out.println(s + " "+ i);}}

class DifferentNumberOfParameters {
  public static void main(String args[]) {
     Overloading1 obj = new Overloading1();
     obj.Emfanise("Java");
     obj.Emfanise("Java", 18.50); } }
```



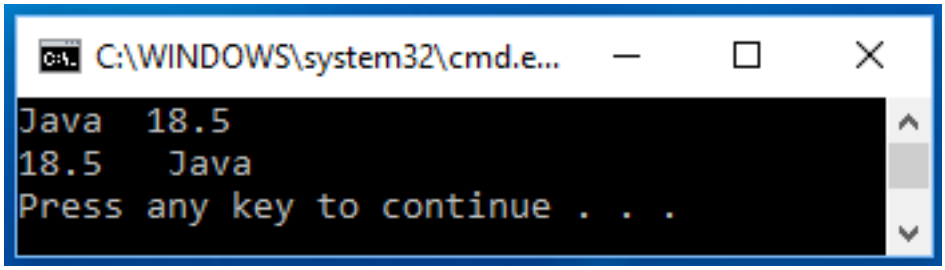
ΑΣΚΗΣΗ-2η (Υπερφόρτωση μεθόδων *(method overloading)* – Διαφορετικός τύπος παραμέτρων)

```
class Overloading2 {
    public void Emfanise(String s)
     {System.out.println(s); }
    public void Emfanise(double s)
     {System.out.println(s);
} }
   class DifferenceInDataTypes {
    public static void main(String args[]) {
      Overloading2 obj = new Overloading2();
      obj.Emfanise("Java");
      obj.Emfanise(18.50);
 } }
```



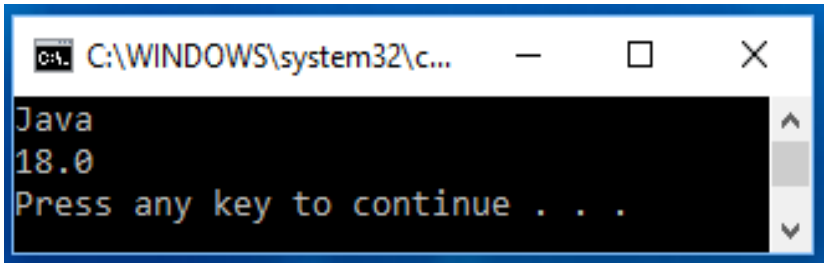
ΑΣΚΗΣΗ-3η (Υπερφόρτωση μεθόδων *(method overloading)* – Διαφορετικός σειρά παραμέτρων)

```
class Overloading3 {
   public void Emfanise(String s, double d)
    {System.out.println(s+"  " + d); }
   public void Emfanise(double d, String s)
    {System.out.println(d +"   " + s);
} }

class DifferentSequenceOfDataTypes {
  public static void main(String args[]) {
     Overloading3 obj = new Overloading3();
     obj.Emfanise("Java", 18.50);
     obj.Emfanise(18.50, "Java");
 } }
```



ΑΣΚΗΣΗ-4η (Υπερφόρτωση μεθόδων *(method overloading)* – type promotion)

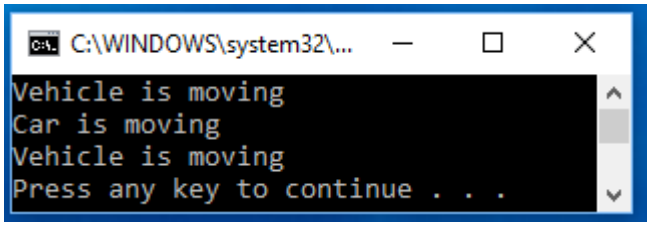
```
class Overloading4 {
  public void Emfanise(String s)
   {System.out.println(s); }
  public void Emfanise(double d)
   {System.out.println(d);
} }


 class TypePromotion {
  public static void main(String args[]) {
    Overloading4 obj = new Overloading4();
    obj.Emfanise("Java");
    obj.Emfanise(18);   //int se double
} }
```



ΑΣΚΗΣΗ-5η (Υπέρβαση/Υπερκάλυψη Μεθόδων - *Method Overriding*)

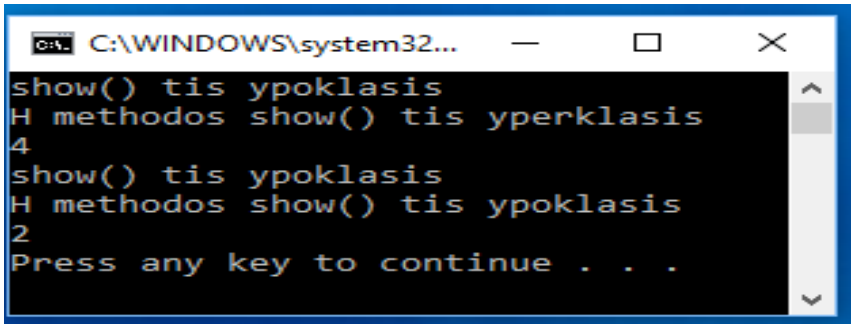
```
class Vehicle {
   public void move () {
      System.out.println ("Vehicle is moving"); } }

class Car extends Vehicle {
   public void move () {
     super.move ();      // kalei tin move() tis yperklasis
     System.out.println ("Car is moving"); } }
```

```
public class TestCar {
   public static void main (String args []){
      Vehicle c = new Car ();    // Vehicle reference se antikeimeno Car
      c.move ();                 //kalei tin methodo stin klasi Car
      Vehicle v = new Vehicle();
      v.move();  } }
```



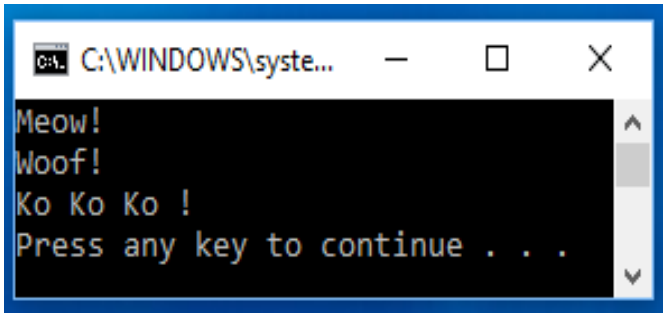
ΑΣΚΗΣΗ-6η (Upcasting - Downcasting)

```
class Yperklasi{
   int x=4;
   void show(){
    System.out.println("show() tis yperklasis");}
   void MonoYperklasiShow(){
    System.out.println("H methodos show() tis yperklasis"); } }
 class Ypoklasi extends Yperklasi{
   int x=2;
   void show(){
      System.out.println("show() tis ypoklasis");}
   void MonoYpoklasiShow(){
      System.out.println("H methodos show() tis ypoklasis");}}

class UpcastingDowncastingEx {
   public static void main(String[] args) {
    Yperklasi yper = new Ypoklasi();   //upcasting
    yper.show();
    yper.MonoYperklasiShow();       //klironomeitai kai ekteleitai
    System.out.println(yper.x);     //an kai ypervasi tou x, emfanizetai to 4 tis yperklasis
    Ypoklasi ypo=(Ypoklasi)yper;      //downcasting
    ypo.show();
    ypo.MonoYpoklasiShow();
    System.out.println(ypo.x);   } }
```



ΑΣΚΗΣΗ-7η (Downcasting)

```
class Animal{ }

class Dog extends Animal {
   public void woof() {
    System.out.println("Woof!");}}

class Cat extends Animal {
    public void meow() {
     System.out.println("Meow!");}}

 class Chicken extends Animal {
    public void kikiriko() {
     System.out.println("Ko Ko Ko !"); } }

class Example2 {
  public static void main(String[] args) {
    makeItTalk(new Cat());
    makeItTalk(new Dog());
    makeItTalk(new Chicken()); }

  public static void makeItTalk(Animal animal) {
   if (animal instanceof Cat) {
     Cat cat = (Cat) animal;
     cat.meow();}
   else if (animal instanceof Dog) {
     Dog dog = (Dog) animal;
     dog.woof();}
   else if (animal instanceof Chicken) {
     Chicken chicken = (Chicken)animal;
     chicken.kikiriko();}
  } }
```


C:\WINDOWS\syste...
Meow!
Woof!
Ko Ko Ko !
Press any key to continue . . .