

Υπερφόρτωση Μεθόδων

Παραδείγματα

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```
public class Student
```

```
{
```

```
    public static int id = 0;
```

```
    public int age;
```

```
    public String firstName;
```

```
    public String lastName;
```

```
    public String address;
```

```
    public Student()
```

```
    {    id++;    }
```

```
    public Student(String fname, String lname) {
```

```
        this();
```

```
        this.firstName = fname;
```

```
        this.lastName = lname;    }
```

Constructors Υπερφόρτωση

ConstructorExample

```
    public Student(String fname, String lname, int age) {
```

```
        this(fname, lname);
```

```
        this.age = age;    }
```

```
    public Student(String fname, String lname, String address) {
```

```
        this(fname, lname);
```

```
        this.address = address;    }
```

```
}
```

```
public class Student
```

```
{
```

```
    public static int id = 0;
```

```
    public int age;
```

```
    public String firstName;
```

```
    public String lastName;
```

```
    public String address;
```

```
    public Student()
```

```
    {    id++;    }
```

```
    public Student(String fname, String lname) {
```

```
        this();
```

```
        this.firstName = fname;
```

```
        this.lastName = lname;    }
```

```
    public Student(String fname, String lname, int age) {
```

```
        this(fname, lname);
```

```
        this.age = age;    }
```

```
    public Student(String fname, String lname, String address) {
```

```
        this(fname, lname);
```

```
        this.address = address;    }
```

```
}
```

```
public class StudentExample
{
    public static void main(String[] args)
    {
        Student s1 = new Student();
        Student s2 = new Student("Kostas", "Georgiou");
        Student s3 = new Student("Maria", "Spinou", 20);
        Student s4 = new Student("Katerina", "Kiriakidou", "Panepistimiou 2, 26100, Patra");

        System.out.println("1st Student: " + s1.firstName + " " + s1.lastName);
        System.out.println("2nd Student: " + s2.firstName + " " + s2.lastName);
        System.out.println("3rd Student: " + s3.firstName + " " + s3.lastName + " " + s3.age);
        System.out.println("4th Student: " + s4.firstName + " " + s4.lastName + " " + s4.address);

        System.out.println("\nNumber of students: " + Student.id); //access static variable id
    }
}
```

```
1st Student: null null
2nd Student: Kostas Georgiou
3rd Student: Maria Spinou 20
4th Student: Katerina Kiriakidou Panepistimiou 2, 26100, Patra

Number of students: 4
```

```
public class Student
```

```
{
```

```
    public static int id = 1;
```

```
    public int age;
```

```
    public String firstName;
```

```
    public String lastName;
```

```
    public String address;
```

```
    public Student()
```

```
    {    id++;    }
```

```
    public Student(String fname, String lname) {
```

```
        this();
```

```
        this.firstName = fname;
```

```
        this.lastName = lname;    }
```

```
    public Student(String fname, String lname, int age) {
```

```
        this(fname, lname);
```

```
        this.age = age;    }
```

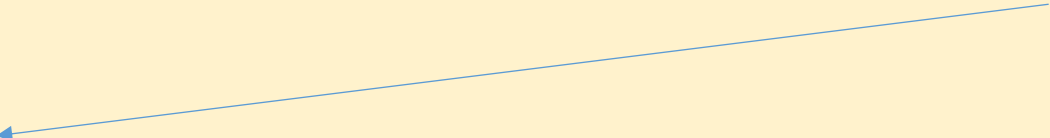
```
    public Student(String fname, String lname, String address) {
```

```
        this(fname, lname);
```

```
        this.address = address;    }
```

```
}
```

Τι θα συμβεί αν το static int id =1
αντί για 0



```
public class StudentExample
{
    public static void main(String[] args)
    {
        Student s1 = new Student();
        Student s2 = new Student("Kostas", "Georgiou");
        Student s3 = new Student("Maria", "Spinou", 20);
        Student s4 = new Student("Katerina", "Kiriakidou", "Panepistimiou 2, 26100, Patra");

        System.out.println("1st Student: " + s1.firstName + " " + s1.lastName);
        System.out.println("2nd Student: " + s2.firstName + " " + s2.lastName);
        System.out.println("3rd Student: " + s3.firstName + " " + s3.lastName + " " + s3.age);
        System.out.println("4th Student: " + s4.firstName + " " + s4.lastName + " " + s4.address);

        System.out.println("\nNumber of students: " + Student.id); //access static variable id
    }
}
```

1st Student: null null
2nd Student: Kostas Georgiou
3rd Student: Maria Spinou 20
4th Student: Katerina Kiriakidou Panepistimiou 2, 26100, Patra

Number of students: 5

```
public class StudentExample
{
    public static void main(String[] args)
    {
        Student s1 = new Student();
        Student s2 = new Student("Kostas", "Georgiou");
        Student s3 = new Student("Maria", "Spinou", 20);
        Student s4 = new Student("Katerina", "Kiriakidou", "Panepistimiou 2, 26100, Patra");

        //System.out.println("1st Student: " + s1.firstName + " " + s1.lastName);
        System.out.println("2nd Student: " + s2.firstName + " " + s2.lastName);
        System.out.println("3rd Student: " + s3.firstName + " " + s3.lastName + " " + s3.age);
        System.out.println("4th Student: " + s4.firstName + " " + s4.lastName + " " + s4.address);

        System.out.println("\nNumber of students: " + Student.id); //access static variable id
    }
}
```

Τι θα συμβεί αν το static int id =1
αντί για 0
και δεν τρέξει το
system.out.println για το s1?

2nd Student: Kostas Georgiou
3rd Student: Maria Spinou 20
4th Student: Katerina Kiriakidou Panepistimiou 2, 26100, Patra
Number of students: 5

```
public class StudentExample
{
    public static void main(String[] args)
    {
        //Student s1 = new Student();
        Student s2 = new Student("Kostas", "Georgiou");
        Student s3 = new Student("Maria", "Spinou", 20);
        Student s4 = new Student("Katerina", "Kiriakidou", "Panepistimiou 2, 26100, Patra");

        //System.out.println("1st Student: " + s1.firstName + " " + s1.lastName);
        System.out.println("2nd Student: " + s2.firstName + " " + s2.lastName);
        System.out.println("3rd Student: " + s3.firstName + " " + s3.lastName + " " + s3.age);
        System.out.println("4th Student: " + s4.firstName + " " + s4.lastName + " " + s4.address);

        System.out.println("\nNumber of students: " + Student.id); //access static variable id
    }
}
```

Τι θα συμβεί αν το static int id =1
αντί για 0
και δεν δημιουργηθεί το s1?

2nd Student: Kostas Georgiou
3rd Student: Maria Spinou 20
4th Student: Katerina Kiriakidou Panepistimiou 2, 26100, Patra
Number of students: 4

exampleGetSet

```
public class Student
{
    public static int id = 0;
    private final int entryYear;
    private static final String DOMAIN = "@ceid.upatras.gr";
    private String firstName;
    private String lastName;
    private String email;

    public Student(int year)
    {
        id++;
        entryYear = year;
    }

    public Student(String fname, String lname, int year)
    {
        this(year);
        firstName = fname;
        lastName = lname;
    }
}
```

```
// Set value for the private variables firstName and lastName
public void setName(String fname, String lname)
{
    setFirstName(fname);
    setLastName(lname); }

private void setFirstName (String fname) {
    this.firstName = fname;}

private void setLastName (String lname) {
    this.lastName = lname;
}

// Get the value of the private variables firstName and lastName
public String getName()
{
    String fullName = this.firstName + " " + this.lastName;
    return fullName;
}

public String getEmail(){
    email = this.lastName + "_" + entryYear + DOMAIN;
    return email;}
}
```

Προσπάθεια εκτύπωσης του `private String firstName` χωρίς χρήση μεθόδου `getName`

```
public class SetterGetterExample
{
    public static void main(String[] args)
    {
        Student s1 = new Student("Kostas", "Georgiou", 2010);
        Student s2 = new Student("Maria", "Spinou", 2008);
        Student s3 = new Student("Katerina", "Kiriakidou", 2005);

        //firstName and lastName are private fields
        System.out.println("1st Student: " + s1.firstName + " " + s1.lastName);
        System.out.println("1st Student: " + s1.getName());
        System.out.println("2nd Student: " + s2.getName());
        System.out.println("Email: " + s2.getEmail());
        //setFirstName is a private method
        //s3.setFirstName ("Eleni");
        s3.setName ("Eleni", "Kiriakidou");
        System.out.println("3rd Student: " + s3.getName());
        System.out.println("\nNumber of students: " + s1.id); //access static variable
    }
}
```

firstName has private access in Student

```
public class SetterGetterExample
{
```

Ορισμός τιμής του `private String firstName`
με την `private` μέθοδο `setFirstName`

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

```
        Student s1 = new Student("Kostas", "Georgiou", 2010);
        Student s2 = new Student("Maria", "Spinou", 2008);
        Student s3 = new Student("Katerina", "Kiriakidou", 2005);
```

```
        //firstName and lastName are private fields
        //System.out.println("1st Student: " + s1.firstName + " " + s1.lastName);
        System.out.println("1st Student: " + s1.getName());
        System.out.println("2nd Student: " + s2.getName());
        System.out.println("Email: " + s2.getEmail());
        //setFirstName is a private method
        s3.setFirstName ("Eleni");
        s3.setName ("Eleni", "Kiriakidou");
        System.out.println("3rd Student: " + s3.getName());
        System.out.println("\nNumber of students: " + s1.id); //access static variable id
```

```
    }
```

```
}
```

`setFirstName(java.lang.String)` has private access in `Student`

```
public class SetterGetterExample
{
    public static void main(String[] args)
    {
        Student s1 = new Student("Kostas", "Georgiou", 2010);
        Student s2 = new Student("Maria", "Spinou", 2008);
        Student s3 = new Student("Katerina", "Kiriakidou", 2005);

        //firstName and lastName are private fields
        //System.out.println("1st Student: " + s1.firstName + " " + s1.lastName);
        System.out.println("1st Student: " + s1.getName());
        System.out.println("2nd Student: " + s2.getName());
        System.out.println("Email: " + s2.getEmail());
        //setFirstName is a private method
        //s3.setFirstName ("Eleni");
        s3.setName ("Eleni", "Kiriakidou");
        System.out.println("3rd Student: " + s3.getName());
        System.out.println("\nNumber of students: " + s1.id); //access static variable id
    }
}
```

Εκτύπωση του `private String firstName` με τη μέθοδο `getName`
Ορισμός τιμής του με την `public` μέθοδο `setName`

```
Number of students: 3
1st Student: Kostas Georgiou
2nd Student: Maria Spinou
Email: Spinou_2008@ceid.upatras.gr
3rd Student: Eleni Kiriakidou
```