Instance Variable OR Non static field :

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* It is a variable which we are defining at **class level** so it has some default value.

* If we **declare a variable inside a class and outside of the method without static modifier then it is called Instance Variable OR Non static field.**

```
class Student
{
    int rollNumber; //Non static field
}
```

* The life of an instance variable **starts** when we create an object that means without an object we cannot **think about non static field.**

* As far as its accessibility is concerned, An instance variable we can access anywhere within the class and outside upon the access modifier we have applied on the instance variable.

* It is used to represent object properties.

How to initialize (stag) the non static fields by using methods with parameter :

Case 1 :

* If we initialize the non static fields using reference variable then the 3 bizz class must be in the same package otherwise to access the non static field, we need to declare the non static field with public access modifier which is not recommended.

```
DO NOT EVER NEVER DECLARE OUR NON STATIC FIELD WITH PUBLIC ACCESS MODIFIER FOR DATA SECURITY.
```

Case 2 :

* We can initialize our non static field with the help of **method with parameter and here we can declare the methods with public access modifier as shown in the program below.**

```
package com.ctt.tic;

//1bizz
public class Employee
{
  int employeeNumber;
  String employeeName;
  double employeeSalary;

  //initialize the variables: field
  public void setEmployeeData(int eno, String name, double salary)
  {
    employeeNumber = eno;
    employeeName = name;
    employeeSalary = salary;
  }

  public void showEmployeeData()
  {
    IO.println("Employee Number is :"+employeeNumber);
    IO.println("Employee Name is :"+employeeName);
    IO.println("Employee Salary is :"+employeeSalary);
  }

}
}

package com.ctt.tic;

import com.ctt.tic.Employee;

//2bizz
public class TestEmpInfo
{
  void main()
  {
    Employee ccitt = new Employee();

    //taking the input from 3 class
    int eno = Integer.parseInt(IO.readln("Enter employee Number : "));
    String name = IO.readln("Enter employee name : ");
    double salary = Double.parseDouble(IO.readln("Enter employee Salary :"));

    ccitt.setEmployeeData(eno, name, salary);
    ccitt.showEmployeeData();
  }

}
}
```

Note : Parameter variables are used to receive the value from outer word. We should always perform the data validation on parameter variable only.

How to initialize the non static field using method parameter as per requirement :

```
package com.ctt.tic;

//1bizz
public class Manager
{
  int managerId;
  String managerName;
  double managerSalary;
  char managerGrade;

  public void setManagerData(int id, String name, double salary)
  {
    managerId = id;
    managerName = name;
    managerSalary = salary;
  }

  public void showManagerData()
  {
    IO.println("Manager id is :"+managerId);
    IO.println("Manager name is :"+managerName);
    IO.println("Manager salary is :"+managerSalary);
    IO.println("Manager grade is :"+managerGrade);
  }

  //To perform some operation on objects we can use non static method
  public void calculateGrade()
  {
    if(managerSalary >=100000)
    {
      managerGrade = 'A';
    }
    else if(managerSalary >=70000)
    {
      managerGrade = 'B';
    }
    else if(managerSalary >=50000)
    {
      managerGrade = 'C';
    }
    else
    {
      managerGrade = 'D';
    }
  }

package com.ctt.tic;

import com.ctt.tic.Manager;

public class ManagerTic
{
    public static void main(String[] args)
    {
      Manager alex = new Manager();
      alex.setManagerData(101, "Dr alex", 75000);
      alex.calculateGrade();
      alex.showManagerData();
    }
}
```