**Code Examples**

**Initialize through reference:**

**class** Student{

**int** id;

String name;

}

**class** Test{

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

//Creating objects

Student s1=**new** Student();

Student s2=**new** Student();

//Initializing objects

s1.id=1;

s1.name="Imran";

s2.id=2;

s2.name="Ahsan";

//Printing data

System.out.println(s1.id+" "+s1.name);

System.out.println(s2.id+" "+s2.name);

}

}

**Initialization through method**

**class** Student{

**int** rollno;

 String name;

**void** insertRecord(**int** r, String n){

  rollno=r;

  name=n;

 }

**void** displayInformation(){System.out.println(rollno+" "+name);}

}

**class** Test{

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

  Student s1=**new** Student();

  Student s2=**new** Student();

  s1.insertRecord(111,"Imran");

  s2.insertRecord(222,"Ahsan");

  s1.displayInformation();

  s2.displayInformation();

 }

}

### Initialization through constructor

**class** Student{

**int** id;

    String name;

**int** age;

    Student(**int** i,String n){

    id = i;

    name = n;

    }

    Student(**int** i,String n,**int** a){

    id = i;

    name = n;

    age=a;

    }

**void** display(){System.out.println(id+" "+name+" "+age);}

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

    Student s1 = **new** Student(111,"Imran");

    Student s2 = **new** Student(222,"Ahsan",25);

    s1.display();

    s2.display();

   }

}

### Static method

**class** Student{

**int** rollno;

     String name;

**static** String college = "IIU";

**static** **void** change(){

     college = "NUML";

     }

     Student(**int** r, String n){

     rollno = r;

     name = n;

     }

**void** display (){System.out.println(rollno+" "+name+" "+college);}

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

    Student.change();

    Student s1 = **new** Student (111,"Imran");

    Student s2 = **new** Student (222,"Ahsan");

    Student s3 = **new** Student (333,"Ahmed");

    s1.display();

    s2.display();

    s3.display();

    }

}

**Problem without this keyword:**

**class** Student{

**int** rollno;

String name;

Student(**int** rollno,String name){

rollno=rollno;

name=name;

}

**void** display(){System.out.println(rollno+" "+name+);}

}

**class** TestThis1{

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

Student s1=**new** Student(111,"Imran");

Student s2=**new** Student(112,"Ahsan");

s1.display();

s2.display();

}}

**Solution:**

**class** Student{

**int** rollno;

String name;

Student(**int** rollno,String name){

**this**.rollno=rollno;

**this**.name=name;

}

**void** display(){System.out.println(rollno+" "+name+);}

}

**class** TestThis2{

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

Student s1=**new** Student(111,"Imran");

Student s2=**new** Student(112,"Ahsan");

s1.display();

s2.display();

}}

**To call class constructor:**

**class** A{

A(){System.out.println("hello a");}

A(**int** x){

**this**();

System.out.println(x);

}

}

**class** TestThis{

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

A a=**new** A(10);

}}

**Parameterized constructor:**

**class** A{

A(){

**this**(5);

System.out.println("hello a");

}

A(**int** x){

System.out.println(x);

}

}

**class** TestThis6{

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

A a=**new** A();

}}

**Real usage of this() constructor call**

**class** Student{

**int** rollno;

String name,course;

Student(**int** rollno,String name){

**this**.rollno=rollno;

**this**.name=name;

}

Student(**int** rollno,String name,String course){

**this**(rollno,name);//reusing constructor

**this**.course = course;

}

**void** display(){System.out.println(rollno+" "+name+" "+course+);}

}

**class** TestThis{

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

Student s1=**new** Student(111,"Imran");

Student s2=**new** Student(112,"sumit","java");

s1.display();

s2.display();

}}