# 8 - Java Special

## Singletone

```java
class Singleton{
    private static Singleton instance = null;
    private Singleton(){}
    public static Singleton getInstance(){
        if (instance == null){
            instance = new Singleton();
        }
        return instance;
    }
    public void show(){
        System.out.println("Singletos Show");
    }
}

public class code{
    public static void main(String[] args) {
        Singleton single1 = Singleton.getInstance();
        single1.show();
        Singleton single2 = Singleton.getInstance();
        if (single1 == single2){
            System.out.println("Both are same.");
        }
    }
}
```

**Output:**

```
Singletos Show
Both are same.
```

## Multi-Threading

- One thread:

```java
class MyThread implements Runnable{
    public void run(){
        System.out.println("Thread is running.");
```

```
        }
    }

    public class code{
        public static void main(String[] args) {
            MyThread t = new MyThread();
            Thread th = new Thread(t);
            th.start();
        }
    }
```

- Multiple thread

```
    class MyThread implements Runnable{
        public void run(){
            System.out.println("Thread is running.");
        }
    }

    public class code{
        public static void main(String[] args) {
            MyThread t1 = new MyThread();
            MyThread t2 = new MyThread();
            MyThread t3 = new MyThread();
            Thread th1 = new Thread(t1);
            Thread th2 = new Thread(t2);
            Thread th3 = new Thread(t3);
            th1.start();
            th2.start();
            th3.start();
        }
    }
```

- **Multitasking** is the running of multiple programs (sets of instructions) in one computer at the same time. Example: Computer OS.
  - Process based --> bad
  - Thread based --> good