

Java8

Thursday, 20 April 2023

12:53 AM

Java OOPS concepts

<https://raygun.com/blog/oop-concepts-java/#:~:text=Abstraction%2C%20encapsulation%2C%20polymorphism%2C%20and,association%2C%20aggregation%2C%20and%20composition.>

- Abstraction
- Encapsulation
- Inheritance
- Polymorphism
- Association - two classes are unrelated and can exist without one another.
- Aggregation - has a relationship(one-way), other can live without main object
- Composition - stricter form of aggregation, mutually dependent on each other

Streams

<https://www.java67.com/2014/04/java-8-stream-examples-and-tutorial.html>

<https://mkyong.com/java8/java-8-stream-iterate-examples/>

<https://www.geeksforgeeks.org/functional-programming-in-java-8-using-the-stream-api-with-example/>

<https://www.javaguides.net/2018/07/java-8-stream-api.html>

Examples:

```
static class Student{  
    int id;  
    String name;  
    public Student(int id, String name){  
        this.id = id;  
        this.name = name;  
    }  
}
```

```
private static Map<Integer, String> convertListToMap(List<Student>  
studentList){  
    Map<Integer, String>  
    map = studentList.stream().collect(Collectors.toMap(a -> a.id, b ->
```

```
b.name));  
return map;  
}  
}
```

```
Student st1 = new Student(1, "vg");  
Student st2 = new Student(2, "venk");  
List<Student> studentList = new ArrayList<>();  
studentList.add(st1);  
studentList.add(st2);
```

```
Student.convertListToMap(studentList).entrySet().stream().forEach(a ->  
System.out.println("a:" + a.getKey() + ", " + a.getValue()));
```

```
String val = Stream.iterate(new int[]{0, 1}, n -> new int[]{n[1], n[0] + n[1]})  
.limit(10)  
.map(n -> String.valueOf(n[0]))  
.collect(Collectors.joining(", "));  
System.out.println("fibonacci: " + val);
```

```
List<Integer> list = Stream.iterate(0, n -> n + 1)  
.limit(10)  
.filter(a -> a % 2 == 1)  
.collect(Collectors.toList());  
list.forEach(a -> System.out.print(a + ", "));
```