Median of Data Stream:- Sorted list

$$[1, 2, 3, 4, 5\ 6\ 7] = 3$$

$$\frac{l+r}{2} = \text{median for even numbers})$$

T.C to calculate median with arrayList $= n \log(n)$

$$n \times n + \log(n) = \underline{\underline{n^2}}$$

add
· if (l.size > r.size)
  r.add (l.remove());
· if (l.peek > r.peek)
  swap ();

Priority Queue:- 1, 2, 3, 4, 5,6

max   min
left   right
             4
3   5
2   6
1

add $= \log(n) + \log(n) + \ldots = O\log(n)$

fm () {
  if (l.siz == r. siz) {
    (l.peek + r.peek)/2
  } else   return r. peek();

fm = O(1) $n \log(n) < n^2$

OOPS:- School Report Card Management:- LLD

Student	Subject	Report Card	Exam
Name	Name	Student	gained
Rollnumber	exams[]	Subject []	total
class			type

Access Modifier
or
Specifier

```java
public class Student {

    private String name;
    private int rollNumber;
    private String clss;

    public Student(String name, int rollNumber, String clss) {
        this.name = name;
        this.rollNumber = rollNumber;
        this.clss = clss;
    }
}
```

Constructor

Intialisation
of an object

object   constructor

```java
Student krish = new Student( name: "Krish", rollNumber: 21, clss: "10th");
```

class   Parameters

Vehicle → runs = (vehicle running)
↓
Scooty → => (scooty running)

Super => It refers to the Parent class of current class.