Static in Java

Object Oriented programming

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"static" keyword : for attributes

- In Java, the static keyword is used to **define class-level members** (variables, methods, or blocks) that **belong to the class itself** rather than to any specific instance of the class

- Static attributes .. Data stored in static variables is common for all the objects (or instances) of that Class.

- Examples: pi, currentStudentNumber etc.
  - Refer to them using the class ref
    - E.g. Circle.pi

```
class Student {

    int studentNumber;

    static int studentCount = 100; // Shared across all instances

        public Student() {


        // .. What code do I need here to make the allocated student
            numbers be 100,101,102,203…e tc


        }



Increments every time a new Student is created } }
```

```java
class Student {

    int studentNumber;

    static int studentCount = 100; // Shared across all instances

        public Student() {

                studentNumber = studentCount;
                studentCount++;                    // increment

}
```

"static"   keyword : for methods

- Remember - In Java, the static keyword is used to **define class-level members** (variables, methods, or blocks) that **belong to the class itself** rather than to any specific instance of the class

- Static methods can be used when a method does not use any object (instance information)
  - "Does it make sense to call this method, even if no object has been constructed yet or exists?" If so, make it static"

"static" keyword : for methods

- E.g `main` method
  - We haven't been instantiating the control class it is in…

- Utility methods
  - E.g. a Sports class with method to convert kilometres to miles