# Exercises - records and arrays
## COMP SCI / SFWR ENG 2S03

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# Arrays

### Arrays

- A data structor
- Fixed length
- Stores data of the same "type"
- Primitive type (int, double, float, char, etc.)
- Custom object type (ex. Dog, Point, etc.)

```
int [] array1 = new int [10];
Point [] array2 = new Point [20];
```

# Records

### Records

- Records are object
- Object with no instance methods
- Used primary to store collections of data
- Not for functionality

```
public class Point{
    int x;
    int y;
    public Point(int x, int y){
        this.x=x;
        this.y=y;
    }
}
```

# Exercise # 1

- Create a record of student which holds their student ID, name, and their grade

# Exercise # 2

- Create a data base to hold the record (using array of length 100)
- Global array to store the record
- Global counter to keep track of number of students in the data base
- "insert" function to insert a student at a given location ( must be next empty slot or between existing slots) or "simplifiedInsert" which always insert at the end
- "delete" function to delete a student at a given location (must be occupied slot) or "simplifiedDelete" which always delete the last student
- "display" function to print what's in the data base (each student id, name, grade) (use printf)