

Comments on Assignment 3

The average of over 87% says that all students who submitted the assignment have done an excellent job. But, there still was an issue that I would like to bring to your attention. It is about the identification of boats.

There is the following sentences on the first page of the assignment:

“A boat has a unique number within its marina.”

This sentence implies that there may exist different boats in different marinas having the same number, meaning that the boat number is not a unique identifier of a boat. And this is the case. Just observe the boat Flying Dutch in the Sea View marina and the boat Sally Ann in the Evans Bay marina, both having the number = 313. Since the marina names are unique, and the boats have unique numbers within their marina, the unique identification of a boat has to be composed of the **marina name** and the **boat number**.

Mistake number 1

By missing to perceive the information above, over 90% of students defined the index that should prevent a boat to get more than one reservation per day in the following way:

```
db.reserves.ensureIndex({'reserves.boat.number': 1,
'reserves.date': 1}, {unique: true})
```

The index above is semantically wrong, it prevents any boat with the same number to have more than one booking per day. So, if Flying Dutch from Sea View already have a reservation, the index will prevent Sally Ann from Evans Bay to get a reservation for the same date.

The correct definition of the index is:

```
db.reserves.ensureIndex({'marina.name': 1,
'reserves.boat.number': 1, 'reserves.date': 1}, {unique:
true})
```

Mistake number 2

By missing to perceive the information above, quite a number of students missed to enter Port Nicholson data in the document containing boat Dolphin with the number 110.