

FlipFit - SDE2

Design a backend system for a new enterprise application that Flipkart is launching, FlipFit. Flipkart is partnering up with gyms across Bangalore to enter into the fitness space. For the Beta launch the requirements are as follows:

- There are only 2 centers for now - **Koramangala** and **Bellandur**. We plan to expand to multiple others if we get traction.
- Each center has **n slots of an hour each**. For eg the Bellandur center has only 6 slots - 3 in the morning of **an hour each** from **6am to 9am** and similarly 3 in the evening from **6pm to 9pm**. All the centers are open **7 days a week**.
- Each slot at a center can have **n possible workout variations** - **Weights, Cardio, Yoga, Swimming etc**. There could be newer workouts added at center/slot level in the future. Adding new workout types should be easy and lead to minimal or no changes in application.
- The number of seats in each workout at each time-slot for a given center is fixed.
- For simplicity's sake you can assume that the workout info will be entered by the Admin only once.
- View his/her plan basis day/workout type/center as input. It should be easy to change view pattern.
- User can perform the following operations:
 - Register onto the platform
 - View the workouts availability/unavailability for a particular day
 - Book a workout for a user if seats are available in that time slot at that

center

Bonus: return the nearest time slot for the same workout/center/user combination, keeping in mind his other booked slots

Guideline:

- Time: 90mins
- Write modular and clean code.
- **A driver program/main class/test case is needed to test out the code by the evaluator with multiple test cases.** But do not spend too much time in the input parsing. Keep it as simple as possible.
- Evaluation criteria: Demoable & functionally correct code, Code readability, Proper Entity modelling, Modularity & Extensibility, Separation of concerns, Abstractions. Use design patterns wherever applicable

- You are not allowed to use any external databases like MySQL. Use only in memory data structures.
- No need to create any UX
- Please focus on the Bonus Feature only after ensuring the required features are complete and demoable.

Koramangala

6 am to 9 am

6 pm to 9 pm

Weights, Cardio, Yoga, Swimming

Bellandur

7 am to 10 am

7 pm to 10 pm

Weights, Cardio, Yoga

Add Workout and seats to location

```
addWorkout("Koramangala", "Weights", 6, 7, 100)
```

```
addWorkout("Koramangala", "Cardio", 7, 8, 150)
```

```
addWorkout("Koramangala", "Yoga", 8, 9, 200)
```

```
addWorkout("Bellandur", "Weights", 18, 19, 100)
```

```
addWorkout("Bellandur", "Cardio", 18, 19, 20)
```

```
register("Sourabh")
```

```
viewWorkoutAvailability("Weights")
```

```
"Koramangala", "Weights", 6, 7, 100
```

```
"Bellandur", "Weights", 18, 19, 100
```

```
viewWorkoutAvailability("Cardio")
```

```
"Koramangala", "Cardio", 7, 8, 150
```

```
bookASession
```

```
bookSession("Sourabh", "Koramangala", "Weight", 6, 7)
```

viewWorkoutAvailability("Weights")
"Koramangala", "Weights", 6, 7, 99
"Bellandur", "Weights", 18, 19, 100

Code and Resume Upload : <https://forms.gle/neqFYVdmpZ7R5kBz5>