Documentation of Given Assignment

**Problem Statement:**

As a game development company, Marvelous limited planned to get new game to market with the existing APIs. There are 3 APIs available

1. Avengers characters ([http://www.mocky.io/v2/5ecfd5dc3200006200e3d64b](https://urldefense.proofpoint.com/v2/url?u=http-3A__www.mocky.io_v2_5ecfd5dc3200006200e3d64b&d=DwMGaQ&c=cxWN2QSDopt5SklNfbjIjg&r=69fehnPZOm7EqcYQqqe1gCXci0o18Nukb38BTyEUEfM&m=rW5mPcRpCTfGotFh-AR_JGpzsPmSikcNJqa7Vq-ZHD4&s=jHim6iFwsFoI4VQQiwMgAa2Hwc-RVI7curZuCiyHUck&e=))
2. Anti heroes ([http://www.mocky.io/v2/5ecfd630320000f1aee3d64d](https://urldefense.proofpoint.com/v2/url?u=http-3A__www.mocky.io_v2_5ecfd630320000f1aee3d64d&d=DwMGaQ&c=cxWN2QSDopt5SklNfbjIjg&r=69fehnPZOm7EqcYQqqe1gCXci0o18Nukb38BTyEUEfM&m=rW5mPcRpCTfGotFh-AR_JGpzsPmSikcNJqa7Vq-ZHD4&s=80Kqw5v04qChfEjxxEOOFSFxBzcsYxWCYW-tThTXk7c&e=))
3. Mutants ([http://www.mocky.io/v2/5ecfd6473200009dc1e3d64e](https://urldefense.proofpoint.com/v2/url?u=http-3A__www.mocky.io_v2_5ecfd6473200009dc1e3d64e&d=DwMGaQ&c=cxWN2QSDopt5SklNfbjIjg&r=69fehnPZOm7EqcYQqqe1gCXci0o18Nukb38BTyEUEfM&m=rW5mPcRpCTfGotFh-AR_JGpzsPmSikcNJqa7Vq-ZHD4&s=SlKLnwDtJ11XYCvxyM7T12j4RjWp98vTVLoNQX1nD5w&e=))

Each api gives the list of character and its power level. The power level changes at every 10s interval. Expectation is to call these **apis in parallel** and store the response in a data structure. Developer has to build a micro-service to do these operations. Also service should expose a api which accepts the name of the character and gives the power level back. Expectation is api should give the latest power level of the character. But the data structure size is limited and can hold upto only 15 characters.

Business Rule 1: If there more characters then we should remove the least used characters.

Business Rule 2: If there is no space to add incoming characters  until player requests for a character for the first time then drop lowest powered characters to make space.

**Approach for this problem:**

1. First, I tried to understand the problem statement clearly and generate a steps how to make solution.
2. Since I don’t have any knowledge in kotlin and spring boot, so i have gone through some videos regarding kotlin and SpringBoot basics.
3. Then I downloaded necessary tools to build an api. The best tool I got is Intelij with jdk 8 installed.
4. I tried to explore the tool to get familiar with it, then started write sample code.
5. I have browsed the steps to create an api using kotlin with spring boot, Later tried to implemented that.
6. I have created an api and also tried to connect external given api’s.
7. Then, I explored about microservices, but couldn’t able to implement properly.
8. Then started to build the code, complied and run the code.
9. In this approach, I have created an api and called the external api’s.