Oracle Asia R&D Center

Internship Technical Challenge

Duration of Exercise: 1 day

Challenge Objectives

The challenge is designed to test your basic software development skills, and your ability to solve problems, and learn new skills.

Requirements

Please read both challenges carefully before attempting. There may be certain elements of the challenge that are related, and may affect how you choose to implement the challenges.

Challenge 1: Logic and Problem Solving

Using any language of your choice, design a program that does the following:

1. Write a REST web service that takes in a numerical value between 1 to 100, and returns the Fibonacci sequence, as well as a sequence that is sorted using the following conditions:
   - Even numbers first, in descending order
   - Odd numbers, in descending order

     e.g. if I do a http get to http://myserver:8000/fibonacci with the following json

     ```
     {
       "elements": 10
     }
     ```

     it will return me the following JSON

     ```
     {
       "fibonnacci": [0,1,1,2,3,5,8,13,21,34 ]
       "sorted": [34,8,2,31,13,5,1,1,0]
     }
     ```

   Your code should be properly documented, and written as complete as you can make it.

Challenge 2: Containers

1. Write a docker file that is able to run the REST service you have written in challenge.

For this challenge, you need to make sure that the Dockerfile is able to build the environment and run the application that you have written in challenge 1.

Submission:

When you have completed the challenge, upload your solution into your own GitHub account and send me the link.

The repository should contain:

- The source code containing the solution
- The dockerfile that can be used to build the container
- Instructions on how to build, run the container,