This warm-up exercise consists of two components, a programming exercise, and a database exercise. Details and instructions on how to submit are given in the respective sections.

Programming exercise:

This is a simple exercise to model and implement a cricket game. Your task is to build a *standalone application* adhering to the rules given, fulfilling the minimum requirements while complying with the given guidelines. A UI is not needed in this exercise. You can use any language of your choice and a programming tool (i.e: Intellij, Eclipse, Netbeans). Along with the code, add a README file detailing how to run the program with the necessary steps. The duration of the exercise is 10 days.

Rules of the games are as follows:

- Two teams, 6 players per team
- Everyone can ball and bat
- Runs can be 0, 1, 2, 3, 4, 6
- Two ways to get out - caught and bowled
- Three balls per over, 5 overs per team
- Batting team is decided by a toss
- The first team to bat will be batting until all-out or overs finish
- The winning team will be the one with the highest score of the two

Minimal requirements:

- Play the game through the command line
- Naming the two teams through the command line
- No need to explicitly name players (hint: naming can be “player 1”, “player 2” ...)
- Hitting the ball is depicted by “p” key
- Runs/ getting out should be random (hint: use a random number generator)
- After a match, a scoreboard should be shown, with the result

Guidelines:

- Fist model the game - conceptualize
- Use OOP concepts
- No need to persist data, hence neither a database nor a file writing is required
- Use data structures available to store data
- Use a familiar language

Useful References:
https://docs.google.com/document/d/1BQwy3jHVhtV1Bd5GijDtErgYw-TRIN_IKiLmQ7QdkGY/edit?usp=sharing

Submission Format: Put all the files into a folder with a readme file describing how to run the program

SPARK

Database exercise:

This is a simple exercise to demonstrate your familiarity with SQL. In this exercise, you will set up a MySQL database, import the given data set, and write expected queries.

Setup a database:

- Download and setup MySQL database and visualizer
- Create a Database
- Create tables and Import data (ower, pet, procedure_history, procedure_detail)
- Use correct data types
- Define primary keys, foreign keys

Write SQL queries for each of the following questions:

1. Select all procedure types where the price is above 150
2. Find all owners who have a parrot as a pet
3. Find the number of owners who have the same postal code (i.e 10 from 49503, 1 from 48423)
4. Find all pets having gone through a procedure during the month of February 2016
5. Find the total cost of procedures incurred during the month of March of owners from the postal code 49503

Assignment submission Instruction:

Single SQL file containing the table creation queries with constraints (primary key, foreign key) defined and queries to the 5 questions.

Submission instructions:

Due date: 2020 - July - 17 midnight

Add the programming project folder and the SQL script into a folder and make a zip file. Name the zip file in the format **<week_no>_<your_name>.zip.** (ex: week1_Malawaraarachchi.zip)

Go to https://www.myspark.lk/learn and upload the zip file using the submit response button under the Tech Program section.