**Deloitte Digital Away Day**

**Description**: Deloitte Digital Away Day is a maven project to generate an away day program to accommodate a list of activities.

**Technologies Used:**

1. Java 1.8
2. Apache Maven 3.0.5
3. Junit 4.12
4. Codehaus Mojo Maven Plugin 1.5.0

**Algorithm**:

1. Sorted activities in descending order of activities duration.
2. Each team divided into two slots i.e. morning and evening.
3. Put each activity in different slots following order such as morning slot of team1, morning slot of team2 and evening slot of team1 then evening slot of team2.(Morning slots of all team then evening slots of all team)
4. If activity duration does not fit in morning allotted time (i.e.180min) check for next slot and continue the process until activity get fit in one of available slot.

**Design**:

These are the main classes used in this project:

|  |  |  |
| --- | --- | --- |
| **Package** | **Class** | **Description** |
| deloitte.digital.away.day | Main | Main Class |
| deloitte.digital.away.day.model | Activity | Class to store an activity data (name, duration). Start time is calculated using a LocalTime. |
| MorningBlock | Class to store a list of task and a maximun size. Methods to calculate the available and used size and to add a task (returning true if the task fits correctly) are included. |
| EveningBlock | MorningBlock extended class including an extratime. Available size method overwriten to manage extra time. |
| AwayDayProgram | Class to store a morning MorningBlock and an evening EveningBlock. Morning and evening start and finish date can be configured (configuration is validated). Methods to include activities into both blocks are included. |
| DigitalAwayDay | Class to strore a list of AwayDayProgram. Morning and evening start and finish time, extra time for evening and number of teams can be configured (configuration is validated). Also a method to add a list of tasks is included. |
| deloitte.digital.away.day.utils | FileUtils | Class with a method for reading a list of tasks from a file (specific format) |
| Utils | Class having methods to sort the activities in descending order of duration and finding out no. of programs formed. |
| deloitte.digital.away.day.exception | DigitalAwayDayException | Returned exception when a functional or execution error occurs. |

**Assumptions**:

No. of programs calculated such as one program is of 7hrs.

Eg.12 hrs. = 12/7= 1.71) = 2 programs

**Input Conditions:**

Deloitte Digital Away Day generates a day program based in an input file stored in the directory ‘src/main/resources/activities.txt’.

These are the allowed formats for tasks:

|  |  |
| --- | --- |
| **Format** | **Example** |
| [task\_name] [time\_in\_minutes]min | Duck Herding 60min |
| [task\_name] sprint | Duck Herding sprint |

Sprint is used for 15 minutes tasks.

**Steps to Run the Application:**

Required:

1. Maven 3+
2. Java 8

Steps:

1. Open command line (cmd).
2. Switch on the command line into your projects root directory and trigger the following Maven commands.

mvn clean package

mvn exec:java

**Input:**

Duck Herding 60min

Archery 45min

Learning Magic Tricks 40min

Laser Clay Shooting 60min

Human Table Football 30min

Buggy Driving 30min

Salsa & Pickles sprint

2-wheeled Segways 45min

Viking Axe Throwing 60min

Giant Puzzle Dinosaurs 30min

Giant Digital Graffiti 60min

Cricket 2020 60min

Wine Tasting sprint

Arduino Bonanza 30min

Digital Tresure Hunt 60min

Enigma Challenge 45min

Monti Carlo or Bust 60min

New Zealand Haka 30min

Time Tracker sprint

Indiano Drizzle 45min

**Output:**

Deloitte Away Day:

Team 1:

09:00 am : Duck Herding 60min

10:00 am : Cricket 2020 60min

11:00 am : 2-wheeled Segways 45min

11:45 am : Salsa & Pickles sprint

12:00 pm : Lunch Break 60min

13:00 pm : Viking Axe Throwing 60min

14:00 pm : Monti Carlo or Bust 60min

15:00 pm : Indiano Drizzle 45min

15:45 pm : Human Table Football 30min

16:15 pm : Giant Puzzle Dinosaurs 30min

16:45 pm : Time Tracker sprint

Team 2:

09:00 am : Laser Clay Shooting 60min

10:00 am : Digital Tresure Hunt 60min

11:00 am : Enigma Challenge 45min

11:45 am : Wine Tasting sprint

12:00 pm : Lunch Break 60min

13:00 pm : Giant Digital Graffiti 60min

14:00 pm : Archery 45min

14:45 pm : Learning Magic Tricks 40min

15:25 pm : Buggy Driving 30min

15:55 pm : Arduino Bonanza 30min

16:25 pm : New Zealand Haka 30min