

OOP Diagnostic Assignment

Problem Description

Every night the below bands play. Also, Jay Aly' who plays a five-stringed guitar, with string-size .5 mm, made by Screen22 is eager to join any band that would allow her since her previous band was dissolved. More bands will join soon.

Band: "Adrenal'Ex"

Musician -name: "Ilea Emend"; Instrument: Guitar -number of strings: 9. -manufacturer: "Ander"; -string size: 0.4mm.	Musician -name: "Mr Angel"; Instrument: Piano -number of keys: 91. -manufacturer: "McAle"; -is acoustic.	Musician -name: "Jut Leghorn"; Instrument: Synthesizer -number of keys: 94 -has LED. -manufacturer: "Arc";
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Band: "I'd Seen"

Musician -name: "Mr One"; Instrument: Banjo -number of string: 4. -manufacturer: "Fibson"; -string size: 8mm.	Musician -name: "A Gaze Inks"; Instrument: Drums -has hi-hat. -manufacturer: "Toyota";	Musician -name: "Lacier No"; Instrument: Synthesizer -number of keys: 72. -has no LED. -manufacturer: "Suzuki";
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Bands can have any number of members as long as there are not more than one of each instrument present. Every day each band loses a random member, if there are any. Bandless musicians try joining a random band.

Task Description

Write a console application, which provides the following menu options in its first version.

1. List - List all bands by name with their members and the properties of their instruments.
2. Play one night - Execute logic for each band to lose a random member and musicians without a band to try joining a random band. Print all changes to the console. For example "Musician Mr One left Adrenal'Ex. Musician A Gaze Inks left I'd Seen. Musician Jay Aly' joined I'd Seen."
3. Exit - Exit the program

Write a short design document describing the most important aspects of the design. Use the Java programming language to implement the application. Object-oriented design as well as high quality code are key factors. Using relevant coding conventions will give you additional points.

If some part of the exercise is unclear, do not worry. Decide what would be a logical or fun thing to do, and explain in the design document why this choice was made. Do not put your name into any files or paths. When done, deliver the whole package as a zip-file via email and ensure it contains everything needed to create the running program to verify it.