Content Playlist Creation

Definitions

**Content**: This entity represents a piece of content (an asset that has been licensed by Netflix) that is either a movie or an episode of a TV show. A piece of content may have 0 or more ordered Pre-Rolls associated with it.

**Pre-Roll**: This represents an asset to be played before the content plays (e.g. a video clip that shows "Netflix Original Presentation"). A pre-roll may be associated with 0 or more pieces of content. When a Netflix customer chooses to play a piece of content, the pre-rolls associated with the content will be played in correct order followed by the content.

**Video**: This is the actual video file attached to a content or a pre-roll. Each content or pre-roll can have multiple videos attached to it. Each attached video is uniquely tagged with a language, a list of countries and an aspect ratio.

**Playlist**: A legal sequence of pre-rolls and content videos in correct order as instructions to a player. The included videos for content and all defined pre-rolls will all have matching attributes (at least one country and language in common and the same aspect ratio) to form a legal play sequence as defined when capturing the content to pre-roll relationship.



Assignment

* Design object models for these
* Define and create models in memory from data defined in a file(in JSON format). You can use the seed example input file here. But you should attempt expanding it manually for different scenarios
* Write a program that will take a content identifier and a country code as input and return matching valid playlists
* Provide some convenient means to execute or test the code
* If you have made assumptions, include those in the comments

Sample Input file:

{

"content": [

{

"name": "MI3",

"preroll": [{ "name": "WB1" }],

"videos": [

{ "name": "V1", "attributes": {"countries": ["US", "CA"], "language":"English", "aspect": "16:9"} },

{ "name": "V2", "attributes": {"countries": ["UK"], "language": "English","aspect": "4:3"} },

{ "name": "V3", "attributes": {"countries": ["UK"], "language": "English","aspect": "16:9"} }

]

}

],

"preroll": [

{

"name": "WB1",

"videos": [

{ "name": "V4", "attributes": {"countries": ["US"], "language": "English","aspect": "4:3"} },

{ "name": "V5", "attributes": {"countries": ["CA"], "language": "English","aspect": "16:9"} },

{ "name": "V6", "attributes": {"countries": ["UK"], "language": "English","aspect": "4:3"} },

{ "name": "V7", "attributes": {"countries": ["UK"], "language": "English","aspect": "16:9"} }

]

}

]

}

Sample Runs:

Input (MI3, US)

Output

(No legal playlist possible because the Pre-Roll Video isn't compatible with the aspect ratio of the Content Video for the US)

Input (MI3, CA)

Output

Playlist1

{V5, V1}

Input (MI3, UK)

Output

Playlist1

{V6, V2}

Playlist2

{V7, V3}