Music Recommendation using Association Rule Discovery

The data set used is based on a music playlist data set obtained from Yes.com. data archive contains two files. The file "**playlists.txt**" contains on each line a sequence of songs played as part of one playlist. The songs are represented by integer values.

```
222 292 463 262 218 357
212 351 293
238 395 209 455 232 280 254 397 257 327
249 464 209 277 458 353 262 341 246 283 211 360 355 285 241 465
222 352 376
237 311 348 250 212
290
206
245 300 304 230 411 445 320 242 210 331 265 204 466 257
223 306 274 253
467 372 212 275 409 377 218 307 242 337 376 236 324 222
416
450 285 209 217 284 237 413 391 257 451 354 262 271 392 242 207 228 211 390 308 309 224
350
222 266
401 285 242 446 274 310 230 314 358 345 257 216
319 209 263 218
215 312 254 222
227 339 220 340 334
```

The file "**song_names.txt**" contains the mapping between the integer codes and song tiles and artists (format of the song names is **[song title]::[artist]**). Using both these files to generate association rules.

```
222 Another-Way-To-Die::Disturbed
223 Like-A-Stone::Audioslave
224 The-Sex-Is-Good::Saving-Abel
225 Breaking-The-Habit::Linkin-Park
226 Guerrilla-Radio::Rage-Against-The-Machine
227 Bad-Girlfriend::Theory-Of-A-Deadman
228 It's-Been-Awhile::Staind
229 Gotta-Get-Away::The-Offspring
230 Say-You'll-Haunt-Me::Stone-Sour
231 Stinkfist::Tool
232 Everlong::Foo-Fighters
233 Angry-Again::Megadeth
234 The-Memory-Remains::Metallica
235 H.::Tool
236 Head-Like-A-Hole::Nine-Inch-Nails
237 Your-Decision::Alice-In-Chains
238 For-You::Staind
239 Machinehead::Bush
240 Mother::Danzig
241 When-I-Come-Around::Green-Day
242 Nightmare::Avenged-Sevenfold
243 Song-2::Blur
244 The-Beautiful-People::Marilyn-Manson
245 Scream-With-Me::Mudvayne
246 Loser::Beck
247 Getting-Away-With-Murder::Papa-Roach
248 What-It's-Like::Everlast
249 Mama-I'm-Coming-Home::Ozzy-Osbourne
250 Dani-California::The-Red-Hot-Chili-Peppers
251 Man-In-The-Box::Alice-In-Chains
```

Running **Apriori** algorithm with **lift** value of **20** to generate associated songs (**Python code: Music Recommendation.py, apropri.py**)

Below are some of generated associated songs.

```
What's-My-Name::Rihanna
        -------->
No-Hands::Waka-Flocka-Flame
Grenade::Bruno-Mars
Down-On-Me::Jeremih
[confidence: 0.128440, lift: 44.397554]

Grenade::Bruno-Mars
        -------->
No-Hands::Waka-Flocka-Flame
What's-My-Name::Rihanna
Down-On-Me::Jeremih
[confidence: 0.137031, lift: 45.839078]

No-Hands::Waka-Flocka-Flame
        -------->
Grenade::Bruno-Mars
What's-My-Name::Rihanna
Down-On-Me::Jeremih
[confidence: 0.157895, lift: 62.975709]

Down-On-Me::Jeremih
6-Foot-7-Foot::Lil-Wayne
        -------->
No-Hands::Waka-Flocka-Flame
Grenade::Bruno-Mars
[confidence: 0.342308, lift: 78.016061]

Grenade::Bruno-Mars
6-Foot-7-Foot::Lil-Wayne
        -------->
No-Hands::Waka-Flocka-Flame
Down-On-Me::Jeremih
[confidence: 0.597315, lift: 104.103547]
```