**PML Assignment 1:**

I have implemented my gym playlist into tasks 1 and 3 for this assignment. I changed the limit to 50 songs so that I have a better variation of results when sorting the tracks. My gym playlist is a range of tracks stemming from upbeat running music to deep bass, grime to metal-like genres.

**[TASK 1]**

**Sorted by ‘energy’ [:50]:**

1. - Highest track: 0.975 energy: ‘Mike WILL Made-It-Runnin (with A$AP Rocky, A$AP Ferg & Nicki Minaj)’. This track has a loud, expressive, and direct drum beat in the background alongside a strict tempo of rapping on top.

A screenshot of a computer

Description automatically generated

Lowest track: 0.472 energy: ‘Shaker – Next’. I would describe this track to have a ‘deep bass. It has a strong hollowness and low frequencies/ lower notes used in the instrumental nature of the song.

A screenshot of a computer

Description automatically generated

1. This feels correct. I wouldn’t regard these songs to be similar in ‘energy’. They both provide a difference essence and have different practical uses of listening. For example, I would more likely use the higher energy track for running specifically with the higher tempo.

**Sorted by ‘tempo’ [:50]:**

1. A screenshot of a computer

   Description automatically generatedHighest track: 195.560 avg. BPM ‘Shaker – Next’. Described as before.
2. Lowest track: 57.967 avg. BPM ‘Big Sean – No Favors’. This is a slow, electronic grime track. The instrumental drops out on occasion too which contributes to the overall BPM.

A screenshot of a computer

Description automatically generated

1. To me, both are very similar. It is hard to tell which layers the BPM is taken from when you listen to these tracks specifically, however I can highlight both of which at these BPMs. The overarching melodies of these are similar as opposed to the underlying rhythm making the latter obviously a much slower tempo. ‘Shaker – Next’ also has a lot of variation with a hi hat being played underneath which is likely to bring the tempo up higher.

**Sorted by ‘valence’ [:50]:**

1. I didn’t really know what ‘valence’ was at all before this task. It is described by Spotify’s API as ‘musical positiveness conveyed by a track’. So, the higher the figure the higher the ‘valence’.

Highest track: 0.9030 ‘Bowling For Soup – 1985’. It got this one nailed. In my opinion is it *very* ‘euphoric’ as described on the API documentation. It is very lyrical and a sing-along track. It has an ‘old school’ essence to it.

A screenshot of a computer

Description automatically generated

Lowest track: 0.0622 ‘Avicii – Pure Grinding – iSHi Remix’. This surprised me at first however after a relisten, it has an angry undertone and is far less lyrical. The track has long stints of instrumental sections.

A screenshot of a computer

Description automatically generated

1. The order of the ‘valence’ flows relatively well. I do wonder what sub features are taken into consideration to define the ‘valence’. Some songs I felt were misplaced. Looking across the features helps to understand why some are where they are in the order of 50. For example, correlating this order to the ‘loudness’ feature. I felt as though some which were considered to have a lower loudness made more sense to be higher up such as ‘Sandro Cavazza – High With Somebody’ (-7.586) as it has a more light-hearted feel to it. Equally, I felt that ‘Led Zepplin – Whole Lotta Love – 1990 Remaster’ has a definitive carefree rock feel (-11.600) yet it ranks quite low. As if there are anomalies in the sorted valence list. Valence is something which can also be interpreted slightly differently to the individual. It is understandable how this ranking would only be relative.

**[TASK 3]**

The recommendations are good against the seed track (Miley Cyrus – Plastic Hearts). However, I noticed that the songs chosen became more orientated towards rock as the recommendations when on. It seems like the further recommendations begin to take into consideration the previous tracks recommended. As if you’re being stirred towards a specific genre. Looking at the cosine similarity from before, the highest ranking ‘similar track was 0.688 ‘Junkyard Drive – Where I belong’ against all the subset features as recommended first also.

A screenshot of a computer

Description automatically generated

A screenshot of a computer screen

Description automatically generated with medium confidenceI reran the code with only ['energy', 'loudness', 'valence', 'tempo'] as my subset features. The initial recommendations felt much better. I think I have a specific preference for the type of ambience of music I like in the gym – which better match these subset features.