WHAT WE ARE STORING:

```
ADVANCED_STATS_DATA = {                          # Advanced stats from extended streaming history

    "Number of Streams"      : integer,          # At least 30 seconds or half the song

    "Number of Minutes"      : float,            # Total over all songs

    "Average Percentage"     : float,            # Avg. (ms played/ms tracklength) over all streams

    "Time of Day Breakdown" : [float, float, float],   # % of time listened in morning, afternoon, and night

    "Tracks"                 : TRACK_DICT,        # Track dictionary described below

    "Albums"                 : ALBUMS_DICT,       # Albums dictionary described below

    "Yearly"                 : YEARLY_DICT        # Yearly dictionary described below

}
```

YEARLY_DICT, TRACK_DICT, ALBUMS_DICT all below

```
YEARLY_DICT = {

"(YEAR 1)"              : YEARLY_DATA,          # Yearly data dictionary described below

…

"(YEAR N)"              : YEARLY_DATA           # Yearly data dictionary described below

}


YEARLY_DATA = {                                # Advanced stats by year

"Number of Streams"    : integer,              # At least 30 seconds or half the song

"Number of Minutes"    : float,                # Total over all songs

"Average Percentage"   : float,                # Avg. (ms played/ms tracklength) over all streams

"Time of Day Breakdown" : [float, float, float],   # % of time listened in morning, afternoon, and night

"Tracks"               : TRACK_DICT,           # Track dictionary described below

"Albums"               : ALBUMS_DICT,          # Albums dictionary described below

"Monthly"              : MONTHLY_DICT           # Monthly dictionary described below

}


MONTHLY_DICT = {

"JANUARY"              : MONTHLY_DATA,          # Monthly data dictionary described below

…

"DECEMBER"             : MONTHLY_DATA           # Monthly data dictionary described below

}


MONTHLY_DATA = {                               # Advanced stats by month

"Number of Streams"    : integer,              # At least 30 seconds or half the song

"Number of Minutes"    : float,                # Total over all songs

"Average Percentage"   : float,                # Avg. (ms played/ms tracklength) over all streams

"Time of Day Breakdown" : [float, float, float],   # % of time listened in morning, afternoon, and night

"Tracks"               : TRACK_DICT,           # Track dictionary described below

"Albums"               : ALBUMS_DICT,          # Albums dictionary described below

}
```

Note: all track and albums data are dependent on what dictionary they are in. For example, the "Number of Streams" key in TRACK_DATA will have the number of streams of that track by the user for the year of 2022 if this dictionary was found at the following:

ADVANCED_STATS_DATA["Yearly"]["2022"]["Tracks"]["(URI)"]

Likewise, it will have the number of streams of that track by the user for the month January of 2022 if this dictionary was found at the following:

ADVANCED_STATS_DATA["Yearly"]["2022"]["Monthly"]["January"]["Tracks"]["(URI)"]

Additionally: Extended streaming history provides us with URIs for tracks and episodes, but not for the artist or album. This means that if we want access to a specific artist or album, we must query the Spotify API with a search which can be dangerous since there can be multiple artists or albums that have the same name. Hence, we are storing the artist and album data together as the key since it's less likely that two artists will have the same name and same album name. Furthermore, if there is a conflict later, we will determine which artist and album combination is the correct one using the tracks information. We can also get genre information from the artist, and we'll get era information later from the individual tracks. Lastly, both artists and albums can use any special characters in their names. This means that we are using a mix of delimiter characters between artists and albums, and we'll just hope that this doesn't cause a problem.

ALBUMS_DICT = {

"(ART1)-#@$^(ALB1)"   : ALBUM_DATA   # Album dictionary described below

…

"(ARTN)-#@$^(ALBN)"   : ALBUM_DATA   # Album dictionary described below

}

ALBUM_DATA = {

"Number of Streams"   : integer,   # At least 30 seconds or half the song

"Number of Minutes"   : float,   # Total over all songs in album

"Average Percentage"   : float,   # Avg. (ms played/ms tracklength) over songs

"Track URI"   : String,   # URI of a track in album for searching purposes

}

Note that for podcasts, the URI will be the URI of the podcast instead of the track

TRACK_DICT = {

"(URI 1)"   : TRACK_DATA,   # Track data dictionary described below

…

"(URI N)"   : TRACK_DATA   # Track data dictionary described below

}

TRACK_DATA = {

"Name"   : String   # Name of song or podcast in format "(show):(ep)"

"Number of Streams" : integer,   # 30 secs (30 mins for podcasts) or half song/podcast

"Number of Minutes" : float,   # Total over time period

"Average Percentage" : float,   # Avg. (ms played/ms tracklength) over song streams

"Skips"   : integer,   # Number of skips

}