1. Query for a song:
note: copy the pattern of the song for the following queries

```
PREFIX prov: <http://www.w3.org/ns/prov#>
PREFIX mid: <http://purl.org/midi-ld/midi#>

SELECT ?filename ?pattern

WHERE {
?pattern prov:wasDerivedFrom ?filename .
FILTER (regex(?filename, "song title/author", "i")) .
}
```

2. Query for the tempo values of selected song:

```
PREFIX prov: <http://www.w3.org/ns/prov#>
PREFIX mid: <http://purl.org/midi-ld/midi#>

SELECT *

WHERE {
<pattern1> prov:wasDerivedFrom ?filename .
<pattern1> mid:hasTrack ?track .
<pattern1> mid:resolution ?resolution .

?track mid:hasEvent ?timesignatureevent .
?timesignatureevent a mid:TimeSignatureEvent .
?timesignatureevent mid:denominator ?denominator .
?timesignatureevent mid:metronome ?metronome .
?timesignatureevent mid:numerator ?numerator .
?timesignatureevent mid:thirtyseconds ?thirtyseconds .
}
```

3. Query to search for a song with certain tempo values:
note: you can filter for a certain song, or just remove this to select a song from the first 1000 songs that are found. LIMIT can also be changed if you want more results, but this is more time consuming:

```
PREFIX prov: <http://www.w3.org/ns/prov#>
PREFIX mid: <http://purl.org/midi-ld/midi#>

SELECT DISTINCT ?pattern ?filename

WHERE {
?pattern prov:wasDerivedFrom ?filename .
?pattern mid:hasTrack ?track .
?pattern mid:resolution value1 .
?track mid:hasEvent ?timesignatureevent .
?timesignatureevent a mid:TimeSignatureEvent .
?timesignatureevent mid:denominator value2 .
?timesignatureevent mid:metronome value3 .
?timesignatureevent mid:numerator value4 .
?timesignatureevent mid:thirtyseconds value5 .
FILTER (regex(?filename, "song title/author", "i")) . #optional

}

LIMIT 1000
```

4. Query to combine two songs using all tracks:

```
PREFIX prov: <http://www.w3.org/ns/prov#>
PREFIX mid: <http://purl.org/midi-ld/midi#>

CONSTRUCT { <newsong> a mid:Pattern ;
mid:hasTrack ?track .
<newsong> mid:format ?format .
<newsong> mid:resolution ?resolution .
?track mid:hasEvent ?event .
?track a mid:Track .
?event a ?type .
?event ?property ?value .
}

WHERE {
{
<pattern1> mid:hasTrack ?track .
<pattern1> mid:format ?format .
<pattern1> mid:resolution ?resolution .
?track mid:hasEvent ?event .
```

```
?event a ?type .
?event ?property ?value .
} UNION {
<pattern2> mid:hasTrack ?track .
<pattern2> mid:format ?format .
<pattern2> mid:resolution ?resolution .
?track mid:hasEvent ?event .
?event a ?type .
?event ?property ?value .
}
}
```

5. Query for the tracks of a song:

```
PREFIX prov: <http://www.w3.org/ns/prov#>
PREFIX mid: <http://purl.org/midi-ld/midi#>

SELECT ?track

WHERE {
<pattern> mid:hasTrack ?track .
}
```

6. Query to combine the songs, using only desired tracks:

```
PREFIX prov: <http://www.w3.org/ns/prov#>
PREFIX mid: <http://purl.org/midi-ld/midi#>

CONSTRUCT { <newsong> a mid:Pattern ;
mid:hasTrack ?track .
<newsong> mid:format ?format .
<newsong> mid:resolution ?resolution .
?track mid:hasEvent ?event .
?track a mid:Track .
?event a ?type .
?event ?property ?value .
}

WHERE {
{
<pattern1> mid:hasTrack ?track .
<pattern1> mid:format ?format .
<pattern1> mid:resolution ?resolution .
?track mid:hasEvent ?event .
?event a ?type .
?event ?property ?value .
FILTER (?track IN (<track1>, <track2>, <and so on>, <arbitrary>))
} UNION {
<pattern2> mid:hasTrack ?track .
<pattern2> mid:format ?format .
<pattern2> mid:resolution ?resolution .
?track mid:hasEvent ?event .
?event a ?type .
?event ?property ?value .
FILTER (?track IN (<track1>, <track2>, <and so on>, <arbitrary>))
}
}
```

note: in any case, if the result does not sound right in your opinion, it could be the case that the songs just don't match with each other (go back to step 3) or that the selected tracks don't match with each other (go back to step 5).

Considerations:
- tempo in sync between songs
- 2 songs that do not differ in BPM way to much (1 song will go very fast, or the other very slow)
- you still don't have the certainty that 2 songs 'fit' with each other and yield a result that sounds 'nice', this obviously is a subjective requirement

TODO:
Check difference resolution —> in the middle?
- or search for same

Check BPM and MPQM
- set to the same
- search for the same

THE FRAMEWORK

Song 1 :	War Pigs (reso 480)
Exact title :	BLACK SABBATH.War pigs.mid
Tempo values:	4, 24, 4, 8
Song 2:	eine kleine nachtmusik (reso 960)