

2021

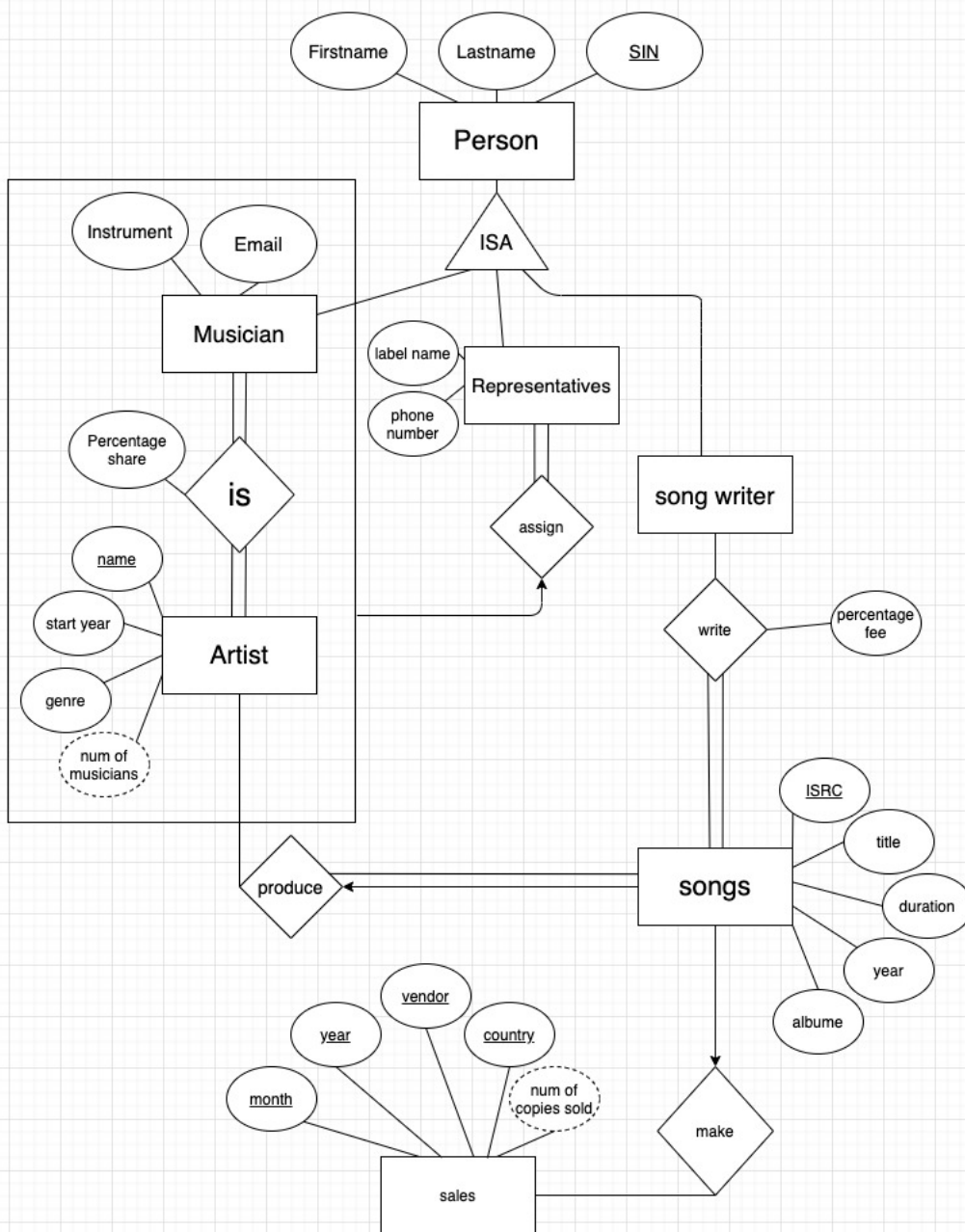
Assignment 1

Sadaf Ahmadi
Student ID: 301437929

CMPT 354

INSTRUCTOR: JACK THOMAS

Question 1



Some notes about the diagram:

1. Musician, representative and song writer all had three common attributes and I've decided to use inheritance for them
2. Regarding representatives I believe there are multiple solutions for that: ternary, multiple binary or aggregation which I chose to use aggregation
3. Number of musicians for each artist and number of copies of a song sold are derived attributes.

Question 2

a)

<i>A PK</i>	<i>B PK</i>
John	Toronto
Alice	Nairobi
Zhang	Moscow
Farah	Kuala Lumpur

- All entities from A participate in R, meaning there is participation constraint on A.
- No entity from A participate in more than one relationship, meaning entity set A is a key constraint for this relationship.
- There are entities from B that do not participate in R (Buenos Aires), meaning there is no participation constraint on B.
- No entities from B participate in more than one relationship, meaning entity set B is a key constraint for this relationship.

b)

<i>A PK</i>	<i>B PK</i>
John	Toronto
Alice	Nairobi
Zhang	Moscow
Farah	Kuala Lumpur
Alice	Buenos Aires

- All entities from A participate in R, meaning there is participation constraint on A.
- Some entities from A participate in more than one relationship (Alice), meaning entity set A is not a key constraint for this relationship.
- All entities from B participate in R, meaning there is participation constraint on B.
- No entity from B participate in more than one relationship, meaning entity set B is a key constraint for this relationship.

c)

<i>A PK</i>	<i>B PK</i>
John	Toronto
Alice	Nairobi
John	Moscow
Farah	Kuala Lumpur
Alice	Buenos Aires
John	Nairobi

- There are entities from A that do not participate in R (Zhang), meaning there is no participation constraint on A.
- Some entities from A participate in more than one relationship (John and Alice), meaning entity set A is not a key constraint for this relationship
- All entities from B participate in R, meaning there is participation constraint on B.
- Some entities from B participate in more than one relationship (Nairobi), meaning entity set B is not a key constraint for this relationship.