

**Course: GY7708 Geospatial Databases and
Information Retrieval**

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CW1

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Part 1

#Loading the data into R

```
database <-
```

```
  read.csv('C:/Users/khalsz/Documents/geodatabaseCW1.csv')
```

```
class(database)
```

```
## [1] "data.frame"
```

```
#
```

```
head(database)
```

```
##      statue      statueLabel      inception      lat
## 1 Q18159833      Edith Cavell Memorial 1920-01-01T00:00:00Z 51.50932
## 2 Q19899485      Statue of Queen Anne 1886-01-01T00:00:00Z 51.51370
## 3 Q7270543       Statue of Queen Victoria 1888-01-01T00:00:00Z 51.45220
## 4 Q20822061      Statue of Amy Winehouse 2014-01-01T00:00:00Z 51.54240
## 5 Q25311639      Statue of Florence Nightingale 1915-01-01T00:00:00Z 51.50730
## 6 Q25311668      Statue of Mary Seacole 2009-01-01T00:00:00Z 51.50020
##      lon      place      placeLabel
## 1 -0.127183
## 2 -0.099900
## 3 -2.599410 Q5146396 College Green, Bristol
## 4 -0.147800 Q149836      Camden Town
## 5 -0.132600
## 6 -0.118900 Q1143779      St Thomas' Hospital
##
##      placeAdmin      depicted
## 1
## 2
## 3 City of Bristol, South West England, England, United Kingdom Q7270543
## 4 London Borough of Camden, Greater London, London, England Q20822061
## 5
## 6 London, Greater London, London, England Q25311668
##      depictedLabel
## 1 Edith Cavell
## 2 Anne of Great Britain
## 3 Queen Victoria
## 4 Amy Winehouse
## 5 Florence Nightingale
## 6 Mary Seacole
##
```

depictedAltLabel

1

Edith Louisa Cavell

2

Anne, Anne Stuart, Anne, Lord of Ireland, Anne, Queen of England, Anne, Queen of Great Britain, Anne, Queen of Ireland, Anne, Queen of Scotland, koningin van Groot-Brittannië en Ierland Anne, Queen Anne, Queen Anne of Great Britain, Queen of England Anne, Queen of Great Britain Anne, Queen of Great Britain Anne Stuart, Queen of Scotland Anne, regina d'Inghilterra Anna I, reine de Grande-Bretagne Anne

3 Victoria, Princess Victoria, Victoria of the United Kingdom, Alexandrina Victoria, Alexandrina Hanover, Alexandrina Victoria von Hannover, koningin van Groot-Brittannië en Ierland Victoria, Queen of Great Britain and Empress of India Victoria, Queen of Great Britain Victoria, Queen Victoria, Queen of the United Kingdom, regina di Gran Bretagna e Irlanda Victoria, Reina de Gran Bretaña Victoria I, reine de Grande-Bretagne Victoria, Victoria Alexandrina, Victoria Hanover, Victoria, Queen of Great Britain

4

Amy J, Amy Jade Winehouse

5

Lady with the Lamp, Angel of Crimea, Miss Smith, Nightingale Florence

6

Mary Jane Grant, Mary Jane Seacole, Mrs. Seacole

##

depictedDescription

1

British nurse (1865-1915)

2 queen of England, queen of Scotland and queen of Ireland (1702-1707); queen of Great Britain (1707-1714)

3

British monarch who reigned 1837-1901

4

British singer and songwriter

5

English social reformer, statistician, and founder of modern nursing (1820-1910)

6

Jamaican businesswoman and nurse

British-

creator creatorLabel X

1 Q2265709 George Frampton NA

2 Q19899493 Richard Claude Belt NA

3 Q85180 Joseph Edgar Boehm NA

4 Q65030346 Scott Eaton NA

5 Q4798807 Arthur George Walker NA

6 Q6775804 Martin Jennings NA

colnames(database)

[1] "statue" "statueLabel" "inception"

[4] "lat" "lon" "place"

```

## [7] "placeLabel"          "placeAdmin"          "depicted"
## [10] "depictedLabel"        "depictedAltLabel"    "depictedDescription"
## [13] "creator"              "creatorLabel"        "X"

database <- database %>% select(-X)
#printing out the columns in the database
colnames(database)

## [1] "statue"              "statueLabel"         "inception"
## [4] "lat"                 "lon"                 "place"
## [7] "placeLabel"          "placeAdmin"          "depicted"
## [10] "depictedLabel"       "depictedAltLabel"    "depictedDescription"
## [13] "creator"             "creatorLabel"

#checking if there is any column with completely unique values
length(apply( X = database, FUN = anyDuplicated, MARGIN = 2)) ==
length(names(database))

## [1] TRUE

#Hence we need to give it a column with unique variables that will serve as
it primary key
database<- database %>% mutate(ID = row_number())

#Checking if the combinationn of ID and Statue can make a unique composite
primary key
nrow(unique(database[,c('statue', 'ID')])) == nrow(database)

## [1] TRUE

#Hence the two are worth using as composite primary key

#SPLITting the variable that are not of atomic values in the depictedAltLabel
column
#to make it conform with the first normal form

database$depictedAltLabel <-
str_split(as.character(database$depictedAltLabel), ",")

database <- database %>% unnest(depictedAltLabel)

database <- database %>% select(-depicted)
#Removed depicted column because it literately means the same as the statue
column,
#and this violates the 1NF rules.
database$statueLabel <- str_replace_all(database$statueLabel, ',', ' ')
database$placeLabel <- str_replace_all(database$placeLabel, ',', ' ')
database$placeAdmin <- str_replace_all(database$placeAdmin, ',', ' ')
database$depictedLabel <- str_replace_all(database$depictedLabel, ',', ' ')

```

```
database$depictedDescription <- str_replace_all(database$depictedDescription,
',', ' ')
```

#Splitting the table to conform with second normal form.

```
database1 <- database %>% select( statue, inception, ID) %>%
  group_by(statue, ID) %>% filter(row_number() == 1)
```

```
database2 <- database %>% select(statue, place, placeLabel, lon, lat,
                                placeAdmin, depictedLabel,depictedAltLabel,
                                statueLabel, depictedDescription,
                                creator, creatorLabel)%>% group_by(statue)
%>%
  filter(row_number() == 1)
```

```
statue_DateTable <- database1
statueLoc_table <- database2 %>% ungroup() %>% select(statue, lon, lat,
creator, place) %>%
  group_by(statue) %>% filter(row_number() == 1)
```

```
statueplaceTable <- database2 %>% ungroup() %>% select(place,
placeLabel,placeAdmin)%>%
  group_by(place) %>% filter(row_number() == 1)
Depictedtable <- database2 %>% ungroup() %>% select(statue,
depictedAltLabel,depictedLabel,
                                                    depictedDescription) %>%
  group_by(statue) %>% filter(row_number() == 1)
```

```
creatortable <- database2 %>% ungroup() %>% select(creator, creatorLabel) %>%
  group_by(creator) %>% filter(row_number() == 1)
```

building model for the tables

```
tablemodel <- dm(statue_DateTable, statueLoc_table,
statueplaceTable,Depictedtable,creatortable )
```

```
names(tablemodel)
```

```
## [1] "statue_DateTable" "statueLoc_table" "statueplaceTable"
"Depictedtable"
## [5] "creatortable"
```

Checking for primary key and adding it to table

```
## # A tibble: 5 x 3
##   columns candidate why
##   <keys>   <lgl>      <chr>
## 1 statue   TRUE        ""
## 2 lon      TRUE        ""
```

```

## 3 lat      TRUE      ""
## 4 creator  FALSE     "has duplicate values: Q2265709 (4), Q2591347 (3),
Q3215421~
## 5 place    FALSE     "has duplicate values: (29)"

## # A tibble: 3 x 3
##   columns      candidate why
##   <keys>      <lgl>      <chr>
## 1 ID          TRUE       ""
## 2 statue      FALSE     "has duplicate values: Q47460184 (4), Q26492135 (2),
Q973~
## 3 inception  FALSE     "has duplicate values: 1903-01-01T00:00:00Z (5),
1901-01-~

## # A tibble: 3 x 3
##   columns      candidate why
##   <keys>      <lgl>      <chr>
## 1 place        TRUE       ""
## 2 placeLabel   TRUE       ""
## 3 placeAdmin   FALSE     "has duplicate values: City of Bristol  South West
Engla~

## # A tibble: 4 x 3
##   columns      candidate why
##   <keys>      <lgl>      <chr>
## 1 statue        TRUE       ""
## 2 depictedAltLabel FALSE     "has duplicate values: Victoria (23),
(4), Ann~
## 3 depictedLabel  FALSE     "has duplicate values: Queen Victoria
(23), Ann~
## 4 depictedDescription FALSE     "has duplicate values: British monarch who
reig~

## # A tibble: 2 x 3
##   columns      candidate why
##   <keys>      <lgl>      <chr>
## 1 creator        TRUE       ""
## 2 creatorLabel   TRUE       ""

## -- Metadata -----
-----
## Tables: `statue_DateTable`, `statueLoc_table`, `statueplaceTable`,
`Depictedtable`, `creatortable`
## Columns: 17
## Primary keys: 5
## Foreign keys: 0

#Checking the link between tables statue_DateTable with statueLoc_table
dm_enum_fk_candidates(
  dm = tablemodel_pks,
  table = statue_DateTable,

```

```

    ref_table = statueLoc_table
)

## # A tibble: 3 x 3
##   columns candidate why
##   <keys>   <lgl>   <chr>
## 1 statue    TRUE     ""
## 2 inception FALSE    "values of `statue_DateTable$inception` not in
`statueLoc~
## 3 ID        FALSE    "Can't combine `value1` <integer> and `value1`
<character~

#Checking the link between tables statueLoc_table with Depictedtable
dm_enum_fk_candidates(
  dm = tablemodel_pks,
  table = statueLoc_table,
  ref_table = Depictedtable
)

## # A tibble: 5 x 3
##   columns candidate why
##   <keys>   <lgl>   <chr>
## 1 statue    TRUE     ""
## 2 lon        FALSE    "Can't combine `value1` <double> and `value1`
<character>."
## 3 lat        FALSE    "Can't combine `value1` <double> and `value1`
<character>."
## 4 creator    FALSE    "values of `statueLoc_table$creator` not in
`Depictedtable$~
## 5 place      FALSE    "values of `statueLoc_table$place` not in
`Depictedtable$st~

#Checking the link between tables _table with statueplaceTable
dm_enum_fk_candidates(
  dm = tablemodel_pks,
  table = statueLoc_table,
  ref_table = statueplaceTable
)

## # A tibble: 5 x 3
##   columns candidate why
##   <keys>   <lgl>   <chr>
## 1 place     TRUE     ""
## 2 statue    FALSE    "values of `statueLoc_table$statue` not in
`statueplaceTabl~
## 3 lon        FALSE    "Can't combine `value1` <double> and `value1`
<character>."
## 4 lat        FALSE    "Can't combine `value1` <double> and `value1`
<character>."
## 5 creator    FALSE    "values of `statueLoc_table$creator` not in
`statueplaceTab~

```

#Checking the link between tables statueLoc_table with creatortable

```
dm_enum_fk_candidates(  
  dm = tablemodel_pks,  
  table = statueLoc_table,  
  ref_table = creatortable  
)
```

```
## # A tibble: 5 x 3
```

```
##   columns candidate why
```

```
##   <keys> <lgl>      <chr>
```

```
## 1 creator TRUE      ""
```

```
## 2 statue FALSE      "values of `statueLoc_table$statue` not in  
`creatableble$cr~
```

```
## 3 lon      FALSE      "Can't combine `value1` <double> and `value1`  
<character>."
```

```
## 4 lat      FALSE      "Can't combine `value1` <double> and `value1`  
<character>."
```

```
## 5 place    FALSE      "values of `statueLoc_table$place` not in  
`creatableble$cre~
```

#Adding the foreign keys

```
complete_tablemodel <-
```

```
  tablemodel_pks %>%
```

```
  dm_add_fk(statue_DateTable, statue, statueLoc_table) %>%
```

```
  dm_add_fk(statueLoc_table, statue, Depictedtable) %>%
```

```
  dm_add_fk(statueLoc_table, place, statueplaceTable) %>%
```

```
  dm_add_fk(statueLoc_table, creator, creatortable)
```

```
complete_tablemodel
```

```
## -- Metadata -----  
-----
```

```
## Tables: `statue_DateTable`, `statueLoc_table`, `statueplaceTable`,  
`Depictedtable`, `creatableble`
```

```
## Columns: 17
```

```
## Primary keys: 5
```

```
## Foreign keys: 4
```

#Checking the integrity of the Database model.

```
complete_tablemodel %>%
```

```
  dm_examine_constraints()
```

```
## i All constraints satisfied.
```

#Visualizing the database relationship model

```
draw <- complete_tablemodel %>%
```

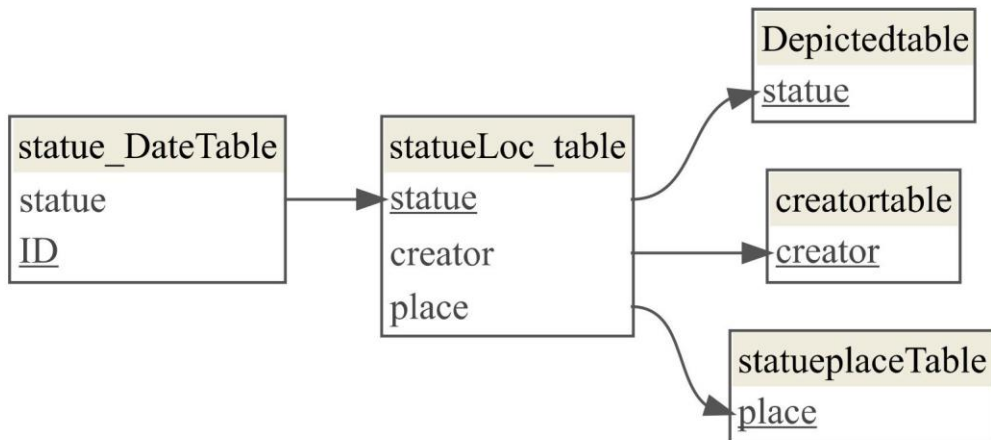
```
  dm_draw() %>%
```

```
  DiagrammerRsvg::export_svg() %>%
```

```
  htmltools::HTML() %>%
```



```
htmltools::html_print()
draw
```



Creating Table for dataset GY7708_2021-22_Assignment_1–Statues-Wikidata.csv

- **Creating Table StatueLoc_Table**

```
DROP TABLE IF EXISTS StatueLoc_Table; CREATE TABLE StatueLoc_Table ( statue
CHARACTER VARYING NOT NULL, Lon Decimal(9,6), Lat Decimal(8,6), Creator
CHARACTER VARYING, Place CHARACTER VARYING, PRIMARY KEY (statue), FOREIGN KEY
(statue) REFERENCES DepictedTable(statue), FOREIGN KEY (place) REFERENCES
StatuePlaceTable(place), FOREIGN KEY (creator) REFERENCES CreatorTable(creator)
```

- **Inserting values into table StatueLoc_Table**

```
INSERT INTO StatueLoc_Table VALUES ( 'Q18159833', '-0.127183', '51.509324',
'Q2265709', NULL);
```

```
INSERT INTO StatueLoc_Table VALUES ( 'Q19899485', '-0.0999', '51.5137', 'Q19899493',
NULL);
```

```
INSERT INTO StatueLoc_Table VALUES ( 'Q7270543', '-2.59941', '51.4522', 'Q85180',
'Q5146396');
```

```
INSERT INTO StatueLoc_Table VALUES ( 'Q20822061', '-0.1478', '51.5424', 'Q65030346',
'Q149836');
```

INSERT INTO StatueLoc_Table VALUES ('Q25311639', '-0.1326', '51.5073', 'Q4798807', NULL);

INSERT INTO StatueLoc_Table VALUES ('Q25311668', '-0.1189', '51.5002', 'Q6775804', 'Q1143779');

INSERT INTO StatueLoc_Table VALUES ('Q26276238', '-1.425885048', '55.01777672', 'Q4723544', NULL);

INSERT INTO StatueLoc_Table VALUES ('Q26309866', '0.367989874', '51.44400088', 'Q8016365', NULL);

INSERT INTO StatueLoc_Table VALUES ('Q26639967', '-0.1741', '51.520272', 'Q1879407', NULL);

INSERT INTO StatueLoc_Table VALUES ('Q26658880', '-0.088828', '51.467863', 'Q16029268', NULL);

INSERT INTO StatueLoc_Table VALUES ('Q26406629', '0.709666', '51.534182', 'Q48110870', 'Q203995');

INSERT INTO StatueLoc_Table VALUES ('Q26669778', '-0.766643', '51.338879', 'Q87344165', NULL);

INSERT INTO StatueLoc_Table VALUES ('Q26677719', '0.092567', '51.769811', 'Q5423877', NULL);

INSERT INTO StatueLoc_Table VALUES ('Q27080880', '-0.18605', '51.505386', 'Q161167', 'Q822607');

INSERT INTO StatueLoc_Table VALUES ('Q27084123', '-0.160803', '51.618432', 'Q5625860', NULL);

INSERT INTO StatueLoc_Table VALUES ('Q23034696', '-0.1044', '51.511', 'Q3215421', NULL);

INSERT INTO StatueLoc_Table VALUES ('Q15615686', '-2.89232', '53.186', 'Q3087183', NULL);

INSERT INTO StatueLoc_Table VALUES ('Q15979175', '-1.5579', '53.8111', 'Q2265709', NULL);

INSERT INTO StatueLoc_Table VALUES ('Q15979535', '-2.73632', '53.4542', 'Q2265709', NULL);

INSERT INTO StatueLoc_Table VALUES ('Q28548283', '-0.107181', '51.514311', NULL, 'Q26317815');

INSERT INTO StatueLoc_Table VALUES ('Q26482744', '-0.169284', '50.824629', 'Q2591347', 'Q989616');

```
INSERT INTO StatueLoc_Table VALUES ( 'Q26484518', '-0.567055', '51.425009',  
'Q1759124', 'Q5474586');  
  
INSERT INTO StatueLoc_Table VALUES ( 'Q26491275', '-2.224786', '53.012338',  
'Q3215421', NULL);  
  
INSERT INTO StatueLoc_Table VALUES ( 'Q26492135', '-0.339174', '53.743765',  
'Q5719317', NULL);  
  
INSERT INTO StatueLoc_Table VALUES ( 'Q17527162', '-0.133067', '51.5005', 'Q5480239',  
NULL);  
  
INSERT INTO StatueLoc_Table VALUES ( 'Q26513391', '-2.938544', '54.898224',  
'Q2591347', NULL);  
  
INSERT INTO StatueLoc_Table VALUES ( 'Q26522424', '-1.470821', '52.917075',  
'Q6470152', 'Q6670716');  
  
INSERT INTO StatueLoc_Table VALUES ( 'Q26525766', '-1.431351', '54.986269',  
'Q4711340', NULL);  
  
INSERT INTO StatueLoc_Table VALUES ( 'Q26546446', '-1.503436', '53.367785',  
'Q4723544', 'Q5375973');  
  
INSERT INTO StatueLoc_Table VALUES ( 'Q26562015', '-2.45075', '50.618765', 'Q5537017',  
NULL);  
  
INSERT INTO StatueLoc_Table VALUES ( 'Q17540305', '-1.5104', '52.408', 'Q472840',  
NULL);  
  
INSERT INTO StatueLoc_Table VALUES ( 'Q17552291', '-1.61162', '54.9703', 'Q2835166',  
NULL);  
  
INSERT INTO StatueLoc_Table VALUES ( 'Q17552314', '-1.61975', '54.9785', 'Q2265709',  
'Q7374975');  
  
INSERT INTO StatueLoc_Table VALUES ( 'Q17775696', '-4.92338', '55.9456', 'Q15964470',  
NULL);  
  
INSERT INTO StatueLoc_Table VALUES ( 'Q17841622', '-4.42299', '55.845', 'Q14833533',  
'Q17841607');  
  
INSERT INTO StatueLoc_Table VALUES ( 'Q29482042', '-3.0015425', '53.044206',  
'Q87344165', 'Q7079013');  
  
INSERT INTO StatueLoc_Table VALUES ( 'Q47460184', '-1.903073', '52.479536',  
'Q2591347', 'Q5765413');  
  
INSERT INTO StatueLoc_Table VALUES ( 'Q47885025', '-1.1339', '52.6345', 'Q7441068',  
'Q6519199');
```

```
INSERT INTO StatueLoc_Table VALUES ( 'Q52157841', '-0.12722222', '51.50072222',  
'Q10444417', 'Q1368556');
```

```
INSERT INTO StatueLoc_Table VALUES ( 'Q56635583', '-4.225503', '57.475868',  
'Q110779160', NULL);
```

```
INSERT INTO StatueLoc_Table VALUES ( 'Q59296592', '0.641666667', '51.80083333',  
'Q1428438', NULL);
```

```
INSERT INTO StatueLoc_Table VALUES ( 'Q59773345', '-2.24305556', '53.47777778',  
'Q59779567', NULL);
```

```
INSERT INTO StatueLoc_Table VALUES ( 'Q97394804', '-2.59681', '51.45458', 'Q355811',  
'Q7721919');
```

```
INSERT INTO StatueLoc_Table VALUES ( 'Q96614428', '-4.30843', '55.862068',  
'Q110779510', NULL);
```

```
INSERT INTO StatueLoc_Table VALUES ( 'Q96623117', '-2.954023', '55.944499',  
'Q2364675', 'Q1011336');
```

```
INSERT INTO StatueLoc_Table VALUES ( 'Q96623123', '-3.136358', '55.933728',  
'Q110779825', NULL);
```

```
INSERT INTO StatueLoc_Table VALUES ( 'Q108862158', '-2.486964', '53.748859',  
'Q7407615', 'Q188313');
```

```
INSERT INTO StatueLoc_Table VALUES ( 'Q110863651', '-0.553', '51.4416', 'Q6130606',  
NULL);
```

```
INSERT INTO StatueLoc_Table VALUES ( 'Q107394352', '-0.1866', '51.50575', 'Q13637425',  
'Q207385');")
```

- **Creating Table Statue_DateTable**

```
DROP TABLE IF EXISTS Statue_DateTable; CREATE TABLE Statue_DateTable ( statue  
CHARACTER VARYING NOT NULL, inception Timestamp, ID SMALLINT NOT NULL,  
PRIMARY KEY (ID), FOREIGN KEY (statue) REFERENCES StatueLoc_Table(statue), CHECK  
(ID > 0)
```

- **Inserting values into table Statue_DateTable**

```
INSERT INTO Statue_DateTable VALUES ( 'Q18159833', '1920-01-01T00:00:00Z', '1');
```

```
INSERT INTO Statue_DateTable VALUES ( 'Q19899485', '1886-01-01T00:00:00Z', '2');
```

```
INSERT INTO Statue_DateTable VALUES ( 'Q7270543', '1888-01-01T00:00:00Z', '3');
```

```
INSERT INTO Statue_DateTable VALUES ( 'Q20822061', '2014-01-01T00:00:00Z', '4');
```

```
INSERT INTO Statue_DateTable VALUES ( 'Q25311639', '1915-01-01T00:00:00Z', '5');
```

```
INSERT INTO Statue_DateTable VALUES ( 'Q25311668', '2009-01-01T00:00:00Z', '6');
INSERT INTO Statue_DateTable VALUES ( 'Q26276238', '1902-01-01T00:00:00Z', '7');
INSERT INTO Statue_DateTable VALUES ( 'Q26309866', '1957-01-01T00:00:00Z', '8');
INSERT INTO Statue_DateTable VALUES ( 'Q26639967', '1897-01-01T00:00:00Z', '9');
INSERT INTO Statue_DateTable VALUES ( 'Q26658880', '1929-01-01T00:00:00Z', '10');
INSERT INTO Statue_DateTable VALUES ( 'Q26406629', '1898-01-01T00:00:00Z', '11');
INSERT INTO Statue_DateTable VALUES ( 'Q26669778', '1904-01-01T00:00:00Z', '12');
INSERT INTO Statue_DateTable VALUES ( 'Q26677719', '1956-01-01T00:00:00Z', '13');
INSERT INTO Statue_DateTable VALUES ( 'Q27080880', '1887-01-01T00:00:00Z', '14');
INSERT INTO Statue_DateTable VALUES ( 'Q27084123', '1862-01-01T00:00:00Z', '15');
INSERT INTO Statue_DateTable VALUES ( 'Q23034696', '1896-01-01T00:00:00Z', '16');
INSERT INTO Statue_DateTable VALUES ( 'Q15615686', '1903-01-01T00:00:00Z', '17');
INSERT INTO Statue_DateTable VALUES ( 'Q15979175', '1903-01-01T00:00:00Z', '18');
INSERT INTO Statue_DateTable VALUES ( 'Q15979535', '1906-01-01T00:00:00Z', '19');
INSERT INTO Statue_DateTable VALUES ( 'Q28548283', '1905-01-01T00:00:00Z', '20');
INSERT INTO Statue_DateTable VALUES ( 'Q26482744', '1901-01-01T00:00:00Z', '21');
INSERT INTO Statue_DateTable VALUES ( 'Q26484518', '1887-01-01T00:00:00Z', '22');
INSERT INTO Statue_DateTable VALUES ( 'Q26491275', '1903-01-01T00:00:00Z', '23');
INSERT INTO Statue_DateTable VALUES ( 'Q26492135', '1903-01-01T00:00:00Z', '24');
INSERT INTO Statue_DateTable VALUES ( 'Q26492135', '1925-01-01T00:00:00Z', '25');
INSERT INTO Statue_DateTable VALUES ( 'Q17527162', '1705-01-01T00:00:00Z', '26');
INSERT INTO Statue_DateTable VALUES ( 'Q26513391', '1902-01-01T00:00:00Z', '27');
INSERT INTO Statue_DateTable VALUES ( 'Q26522424', '1914-01-01T00:00:00Z', '28');
INSERT INTO Statue_DateTable VALUES ( 'Q26525766', '1913-01-01T00:00:00Z', '29');
INSERT INTO Statue_DateTable VALUES ( 'Q26546446', '1904-01-01T00:00:00Z', '30');
INSERT INTO Statue_DateTable VALUES ( 'Q26562015', '1902-01-01T00:00:00Z', '31');
INSERT INTO Statue_DateTable VALUES ( 'Q17540305', '1949-01-01T00:00:00Z', '32');
INSERT INTO Statue_DateTable VALUES ( 'Q17552291', '1903-01-01T00:00:00Z', '33');
```

```

INSERT INTO Statue_DateTable VALUES ( 'Q17552314', '1906-01-01T00:00:00Z', '34');
INSERT INTO Statue_DateTable VALUES ( 'Q17775696', '1896-01-01T00:00:00Z', '35');
INSERT INTO Statue_DateTable VALUES ( 'Q17841622', '1901-01-01T00:00:00Z', '36');
INSERT INTO Statue_DateTable VALUES ( 'Q29482042', '1904-01-01T00:00:00Z', '37');
INSERT INTO Statue_DateTable VALUES ( 'Q47460184', '1901-01-01T00:00:00Z', '38');
INSERT INTO Statue_DateTable VALUES ( 'Q47460184', '1901-01-01T00:00:00Z', '39');
INSERT INTO Statue_DateTable VALUES ( 'Q47460184', '1951-01-01T00:00:00Z', '40');
INSERT INTO Statue_DateTable VALUES ( 'Q47460184', '1951-01-01T00:00:00Z', '41');
INSERT INTO Statue_DateTable VALUES ( 'Q47885025', '2018-01-01T00:00:00Z', '42');
INSERT INTO Statue_DateTable VALUES ( 'Q52157841', '2018-01-01T00:00:00Z', '43');
INSERT INTO Statue_DateTable VALUES ( 'Q56635583', '1896-01-01T00:00:00Z', '44');
INSERT INTO Statue_DateTable VALUES ( 'Q59296592', '1994-01-01T00:00:00Z', '45');
INSERT INTO Statue_DateTable VALUES ( 'Q59773345', '2018-01-01T00:00:00Z', '46');
INSERT INTO Statue_DateTable VALUES ( 'Q97394804', '2020-07-15T00:00:00Z', '47');
INSERT INTO Statue_DateTable VALUES ( 'Q97394804', '2020-07-15T00:00:00Z', '48');
INSERT INTO Statue_DateTable VALUES ( 'Q96614428', '2018-01-01T00:00:00Z', '49');
INSERT INTO Statue_DateTable VALUES ( 'Q96623117', '1995-01-01T00:00:00Z', '50');
INSERT INTO Statue_DateTable VALUES ( 'Q96623123', '2014-01-01T00:00:00Z', '51');
INSERT INTO Statue_DateTable VALUES ( 'Q108862158', '2019-01-01T00:00:00Z', '52');
INSERT INTO Statue_DateTable VALUES ( 'Q110863651', '2015-01-01T00:00:00Z', '53');
INSERT INTO Statue_DateTable VALUES ( 'Q107394352', '2021-01-01T00:00:00Z', '54');

```

- **Creating table DepictedTable**

```

DROP TABLE IF EXISTS DepictedTable; CREATE TABLE DepictedTable ( statue
CHARACTER VARYING NOT NULL, DepictedAltLabel CHARACTER VARYING, DepictedLabel
CHARACTER VARYING, DepictedDescription CHARACTER VARYING, PRIMARY KEY
(statue) );

```

- **Inserting values into table DepictedTable**

```

INSERT INTO DepictedTable VALUES ('statue', 'depictedAltLabel', 'depictedLabel',
'depictedDescription');

```

INSERT INTO DepictedTable VALUES ('Q18159833', 'Edith Louisa Cavell', 'Edith Cavell', 'British nurse (1865-1915)');

INSERT INTO DepictedTable VALUES ('Q19899485', 'Anne', 'Anne of Great Britain', 'queen of England queen of Scotland and queen of Ireland (1702-1707) queen of Great Britain (1707-1714)');

INSERT INTO DepictedTable VALUES ('Q7270543', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q20822061', 'Amy J', 'Amy Winehouse', 'British singer and songwriter');

INSERT INTO DepictedTable VALUES ('Q25311639', 'Lady with the Lamp', 'Florence Nightingale', 'English social reformer statistician and founder of modern nursing (1820-1910)');

INSERT INTO DepictedTable VALUES ('Q25311668', 'Mary Jane Grant', 'Mary Seacole', 'British-Jamaican businesswoman and nurse');

INSERT INTO DepictedTable VALUES ('Q26276238', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q26309866', 'Matoaka', 'Pocahontas', 'Algonquian princess');

INSERT INTO DepictedTable VALUES ('Q26639967', 'Mrs Siddons', 'Sarah Siddons', 'Welsh actress');

INSERT INTO DepictedTable VALUES ('Q26658880', 'Catherine Mumford', 'Catherine Booth', 'Mother of The Salvation Army');

INSERT INTO DepictedTable VALUES ('Q26406629', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q26669778', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q26677719', 'Dame Elisabeth Frink', 'Elisabeth Frink', 'English sculptor and printmaker (1930-1993)');

INSERT INTO DepictedTable VALUES ('Q27080880', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q27084123', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q23034696', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q15615686', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q15979175', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q15979535', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q28548283', 'Mary', 'Mary Queen of Scots', 'Scottish monarch and queen consort of France (1542-1587)');

INSERT INTO DepictedTable VALUES ('Q26482744', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q26484518', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q26491275', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q26492135', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q17527162', 'Anne', 'Anne of Great Britain', 'queen of England queen of Scotland and queen of Ireland (1702?07) queen of Great Britain (1707?14)');

INSERT INTO DepictedTable VALUES ('Q26513391', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q26522424', 'Lady with the Lamp', 'Florence Nightingale', 'English social reformer statistician and founder of modern nursing (1820-1910)');

INSERT INTO DepictedTable VALUES ('Q26525766', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q26546446', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q26562015', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q17540305', 'Godgifu', 'Lady Godiva', 'Anglo-Saxon noblewoman Countess of Leicester');

INSERT INTO DepictedTable VALUES ('Q17552291', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q17552314', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q17775696', 'Highland Mary', 'Mary Campbell', 'lover of Robert Burns');

INSERT INTO DepictedTable VALUES ('Q17841622', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q29482042', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q47460184', 'Victoria', 'Queen Victoria', 'British monarch who reigned 1837-1901');

INSERT INTO DepictedTable VALUES ('Q47885025', NULL, 'Alice Hawkins', 'Leicester suffragette');

INSERT INTO DepictedTable VALUES ('Q52157841', 'Dame Millicent Garrett Fawcett', 'Millicent Garrett Fawcett', 'English suffragist (1847-1929)');

INSERT INTO DepictedTable VALUES ('Q56635583', 'Flora Macdonald', 'Flora MacDonald', 'Scotland heroine; (1722-1790)');

INSERT INTO DepictedTable VALUES ('Q59296592', 'Dorothy Leigh Sayers', 'Dorothy L. Sayers', 'English crime writer playwright essayist and Christian writer (1893-1957)');

INSERT INTO DepictedTable VALUES ('Q59773345', 'Emmeline Goulden', 'Emmeline Pankhurst', 'English suffragist (1858-1928)');

INSERT INTO DepictedTable VALUES ('Q97394804', NULL, 'Jen Reid', 'protestor of Edward Colston statue depicted by A Surge of Power (Jen Reid) 2020');

INSERT INTO DepictedTable VALUES ('Q96614428', NULL, 'Mary Barbour', 'British politician (1875-1958)');

INSERT INTO DepictedTable VALUES ('Q96623117', NULL, 'Jackie Crookstone', 'rioter massacre victim');

INSERT INTO DepictedTable VALUES ('Q96623123', 'Helen Murray Prentice', 'Helen Crummy', 'Social Activist');

INSERT INTO DepictedTable VALUES ('Q108862158', 'Barbara Anne Betts', 'Barbara Castle Baroness Castle of Blackburn', 'British politician (1910?2002)');

INSERT INTO DepictedTable VALUES ('Q110863651', 'Queen Elizabeth', 'Elizabeth II', 'queen of the UK Canada Australia and New Zealand and head of the Commonwealth of Nations');

INSERT INTO DepictedTable VALUES ('Q107394352', 'Diana', 'Diana Princess of Wales', 'first wife of Charles Prince of Wales (1961-1997)');

- **Creating table CreatorTable**

```
DROP TABLE IF EXISTS CreatorTable; CREATE TABLE CreatorTable ( creator CHARACTER VARYING NOT NULL, creatorlabel CHARACTER VARYING, PRIMARY KEY (creator))
```

- **Inserting Values into table CreatorTable**

```
INSERT INTO CreatorTable VALUES ('Q2265709', 'George Frampton');
INSERT INTO CreatorTable VALUES ('Q19899493', 'Richard Claude Belt');
INSERT INTO CreatorTable VALUES ('Q85180', 'Joseph Edgar Boehm');
INSERT INTO CreatorTable VALUES ('Q65030346', 'Scott Eaton');
INSERT INTO CreatorTable VALUES ('Q4798807', 'Arthur George Walker');
INSERT INTO CreatorTable VALUES ('Q6775804', 'Martin Jennings');
INSERT INTO CreatorTable VALUES ('Q4723544', 'Alfred Turner');
INSERT INTO CreatorTable VALUES ('Q8016365', 'William Ordway Partridge');
INSERT INTO CreatorTable VALUES ('Q1879407', 'Léon-Joseph Chavalliaud');
INSERT INTO CreatorTable VALUES ('Q16029268', 'George Edward Wade');
INSERT INTO CreatorTable VALUES ('Q48110870', 'Joseph William Swynnerton');
INSERT INTO CreatorTable VALUES ('Q87344165', 'Henry Price');
INSERT INTO CreatorTable VALUES ('Q5423877', 'F. E. McWilliam');
INSERT INTO CreatorTable VALUES ('Q161167', 'Princess Louise');
INSERT INTO CreatorTable VALUES ('Q5625860', 'Joseph Durham');
INSERT INTO CreatorTable VALUES ('Q3215421', 'Charles Bell Birch');
INSERT INTO CreatorTable VALUES ('Q3087183', 'F. W. Pomeroy');
INSERT INTO CreatorTable VALUES (NULL, NULL);
INSERT INTO CreatorTable VALUES ('Q2591347', 'Thomas Brock');
INSERT INTO CreatorTable VALUES ('Q1759124', 'Prince Victor of Hohenlohe-Langenburg');
INSERT INTO CreatorTable VALUES ('Q5719317', 'Henry Charles Fehr');
INSERT INTO CreatorTable VALUES ('Q5480239', 'Francis Bird');
INSERT INTO CreatorTable VALUES ('Q6470152', 'Lady Feodora Gleichen');
INSERT INTO CreatorTable VALUES ('Q4711340', 'Albert Toft');
```

```

INSERT INTO CreatorTable VALUES ('Q5537017', 'George Blackall Simonds');
INSERT INTO CreatorTable VALUES ('Q472840', 'William Reid Dick');
INSERT INTO CreatorTable VALUES ('Q2835166', 'Alfred Gilbert');
INSERT INTO CreatorTable VALUES ('Q15964470', 'David Watson Stevenson');
INSERT INTO CreatorTable VALUES ('Q14833533', 'Francis John Williamson');
INSERT INTO CreatorTable VALUES ('Q7441068', 'Sean Hedges-Quinn');
INSERT INTO CreatorTable VALUES ('Q10444417', 'Gillian Wearing');
INSERT INTO CreatorTable VALUES ('Q110779160', 'Andrew Davidson');
INSERT INTO CreatorTable VALUES ('Q1428438', 'John Doubleday');
INSERT INTO CreatorTable VALUES ('Q59779567', 'Hazel Reeves');
INSERT INTO CreatorTable VALUES ('Q355811', 'Marc Quinn');
INSERT INTO CreatorTable VALUES ('Q110779510', 'Andrew Brown');
INSERT INTO CreatorTable VALUES ('Q2364675', 'David Annand');
INSERT INTO CreatorTable VALUES ('Q110779825', 'Tim Chalk');
INSERT INTO CreatorTable VALUES ('Q7407615', 'Sam Holland');
INSERT INTO CreatorTable VALUES ('Q6130606', 'James Butler');
INSERT INTO CreatorTable VALUES ('Q13637425', 'Ian Rank-Broadley');")

```

- **Creating Table StatuePlaceTable**

```

DROP TABLE IF EXISTS StatuePlaceTable; CREATE TABLE StatuePlaceTable ( place
CHARACTER VARYING NOT NULL, placeLabel CHARACTER VARYING, placeAdmin
CHARACTER VARYING, PRIMARY KEY (place)

```

- **Inserting values into table StatuePlaceTable**

```

INSERT INTO StatuePlaceTable VALUES ('Q5146396', 'College Green Bristol', 'City of Bristol
South West England England United Kingdom');

INSERT INTO StatuePlaceTable VALUES ('Q149836', 'Camden Town', 'London Borough of
Camden Greater London London England');

INSERT INTO StatuePlaceTable VALUES ('Q1143779', 'St Thomas" Hospital', 'London
Greater London London England');

INSERT INTO StatuePlaceTable VALUES ('Q203995', 'Southend-on-Sea', 'Southend-on-Sea
Essex East of England England');

```

INSERT INTO StatuePlaceTable VALUES ('Q822607', 'Kensington Gardens', 'City of Westminster
Greater London London England');

INSERT INTO StatuePlaceTable VALUES ('Q26317815', 'Queen of Scots House', 'City of London London England United Kingdom');

INSERT INTO StatuePlaceTable VALUES ('Q989616', 'Hove', 'Brighton and Hove East Sussex South East England England');

INSERT INTO StatuePlaceTable VALUES ('Q5474586', 'Founder's Building', 'Runnymede Surrey England United Kingdom');

INSERT INTO StatuePlaceTable VALUES ('Q6670716', 'Derbyshire Royal Infirmary', 'Derby City of Derby Derbyshire East Midlands');

INSERT INTO StatuePlaceTable VALUES ('Q5375973', 'Endcliffe Park', 'Sheffield South Yorkshire Yorkshire and the Humber England');

INSERT INTO StatuePlaceTable VALUES ('Q7374975', 'Royal Victoria Infirmary', 'Newcastle upon Tyne Newcastle upon Tyne Tyne and Wear North East England');

INSERT INTO StatuePlaceTable VALUES ('Q17841607', 'Dunn Square', 'Renfrewshire Scotland United Kingdom');

INSERT INTO StatuePlaceTable VALUES ('Q7079013', 'Offa', 'Wrexham County Borough Wales United Kingdom');

INSERT INTO StatuePlaceTable VALUES ('Q5765413', 'Victoria Square', 'Birmingham Birmingham West Midlands West Midlands');

INSERT INTO StatuePlaceTable VALUES ('Q6519199', 'Leicester Market', 'Leicester City of Leicester Leicestershire England');

INSERT INTO StatuePlaceTable VALUES ('Q1368556', 'Parliament Square', 'City of Westminster Greater London London England');

INSERT INTO StatuePlaceTable VALUES ('Q7721919', 'The Centre Bristol', 'City of Bristol South West England England United Kingdom');

INSERT INTO StatuePlaceTable VALUES ('Q1011336', 'Tranent', 'East Lothian Scotland United Kingdom');

INSERT INTO StatuePlaceTable VALUES ('Q188313', 'Blackburn', 'Blackburn with Darwen Lancashire England United Kingdom');

INSERT INTO StatuePlaceTable VALUES ('Q207385', 'Kensington Palace', 'Royal Borough of Kensington and Chelsea Greater London London England');")