In [1]:

```
import csv

data = list(csv.reader(open("artworks.csv", encoding="utf-8")))
```

In [2]:

```
head = data[0]
body = data[1:]
```

In [3]:

```
for i in head:
    print(i, head.index(i))
```

```
Title 0
Artist 1
Nationality 2
Gender 3
BeginDate 4
EndDate 5
release_year 6
Department 7
appt_made_date 8
```

In [4]:

```
for i in body:
    print(i[0])
```

```
Dress MacLeod from Tartan Sets
Duplicate of plate from folio 11 verso (supplementary suite, plate 4) from
ARDICIA
Tailpiece (page 55) from SAGESSE
Headpiece (page 129) from LIVRET DE FOLASTRIES, À JANOT PARISIEN
97 rue du Bac
Pictorial ornament (folio 11) from WOODCUTS
Rue de l'Hôtel-de-Ville
Los Angeles Airport
Why Defy from Disasters of Peace
STILL WATER AND FISH
In-text plate (folio 11) from LA MÉTROMANIE
Black Bathroom
In-text plate (page 108) from LYSISTRATA
Transcendence. Designs for the Ballet
Untitled
Isadora Duncan
L'Avenir de la Propriété
Arundel Castle from Black Series I
```

In [5]:
```
for i in body:
    print(i[1])
```

```
Sarah Charlesworth
Pablo Palazuelo
Maurice Denis
Aristide Maillol
Eugène Atget
Antonio Frasconi
Eugène Atget
Garry Winogrand
Diane Victor
David Brown Milne
Jean Dubuffet
Jim Dine
František Kupka
Franklin Chenault Watkins
Christopher Wool
Abraham Walkowitz
Pierre Alechinsky
Frank Stella
Frank Lloyd Wright
```

In [6]:
```
for i in body:
    print(i[2])
```

```
(French)
(French)
(Australian)
(American)
(French)
(Spanish)
(German)
(American)
(American)
(French)
(American)
(American)
(American)
(French)
(Italian)
(American)
(American)
(American)
(American)
(American)
```

In [8]:

```
nat = []
for i in body:
    if i[2] not in nat:
        nat.append(i[2])
    else:
        continue

nat
```

```
Out[8]: ['(American)',
         '(Spanish)',
         '(French)',
         '(South African)',
         '(Canadian)',
         '(Czech)',
         '(Belgian)',
         '(Russian)',
         '(British)',
         '(German)',
         '()',
         '(Swiss)',
         '(Polish)',
         '(Japanese)',
         '(Portuguese)',
         '(Austrian)',
         '(Australian)',
         '(Italian)',
         '(Chilean)',
         '(Colombian)',
         '(Mexican)',
         '(Brazilian)',
         '(Dutch)',
         '(Romanian)',
         '(Venezuelan)',
         '(Korean)',
         '(Israeli)',
         '(Argentine)',
         '(Indian)',
         '(Nationality unknown)',
         '(Swedish)',
         '(Yugoslav)',
         '(Cuban)',
         '(Nationality Unknown)',
         '(Various)',
         '(Luxembourgish)',
         '(Croatian)',
         '(Bulgarian)',
         '(Hungarian)',
         '(Georgian)',
         '(Puerto Rican)',
         '(Danish)',
         '(Serbian)',
         '(Pakistani)',
         '(Ecuadorian)',
         '(Chinese)',
         '(Iranian)',
         '(Finnish)',
         '(Lebanese)',
         '(Thai)',
         '(Cambodian)',
         '(Scottish)',
         '(Kenyan)',
         '(Latvian)',
         '(Sudanese)',
         '(Uruguayan)',
         '(Peruvian)',
         '(New Zealander)',
         '(Moroccan)',
         '(Guatemalan)',
         '(Cameroonian)',
         '(Egyptian)',
         '(Nigerian)',
         '(Icelandic)',
         '(Haitian)',
         '(Tajik)',
         '(Irish)',
         '(Norwegian)',
         '(Costa Rican)',
         '(Slovenian)',
         '(Turkish)',
         '(Mozambican)',
         '(Palestinian)',
         '(Ukrainian)',
         '(Angolan)',
         '(Tunisian)',
         '(Greek)',
         '(Zimbabwean)',
         '(Bahamian)',
         '(Vietnamese)',
         '(Panamanian)',
         '(Canadian Inuit)',
         '(Malian)',
         '(Filipino)']
```

In [9]:

```python
for i in body:
    i[2] = i[2].replace("(", "")
    i[2] = i[2].replace(")", "")

for i in body:
    if i[2] == "":
        i[2] = "no value"
    else:
        continue
```

In [10]:
```
for i in body:
    print(i[2])
```

```
Czech
American
French
French
American
German
French
French
American
French
American
American
French
American
Russian
American
American
German
French
American
```

In [11]:
```
for i in body:
    print(i[3])
```

```
(Female)
(Male)
(Male)
(Male)
(Male)
(Male)
(Male)
(Male)
(Female)
(Male)
(Male)
(Male)
(Male)
(Male)
(Male)
(Male)
(Male)
(Male)
(Male)
(Male)
```

In [13]:

```
gend = []
for i in body:
    if i[3] not in gend:
        gend.append(i[3])
    else:
        continue

gend
```

Out[13]:

```
['(Female)', '(Male)', '()', '(male)']
```

In [14]:

```
for i in body:
    i[3] = i[3].replace("(", "")
    i[3] = i[3].replace(")", "")

for i in body:
    if i[3] == "male":
        i[3] = "Male"
```

In [15]:

```
for i in body:
    print(i[3])
```

```
Male
Male
Male
Male
Female
Male
Female
Male
Female
Male
Male
Male
Male
Male
Male
Male
Male
Male
Male
```

In [16]:

```
for i in body:
    if i[3] == "":
        i[3] = "no value"
```

In [17]:

```
for i in body:
    print(i[3])
```

```
Male
Male
Male
Male
Male
Male
Male
Male
Male
Male
no value
Female
Male
Male
Male
Female
Male
Male
Male
Male
```

In [18]:

```
for i in body:
    print(i[4])
```

```
-1883
-1857
-1971

-1923
-1947
-1948
-1941
-1904
-1880
-1883
-1891
-1921
-1924
-1884
-1911
-1900
-1857
-1857
-1915
```

In [19]:

```
for i in body:
    i[4] = i[4].strip("-")

for i in body:
    if i[4] == "":
        i[4] = 0
    else:
        continue

for i in body:
    i[4] = int(i[4])
    print(i[4])
```

```
1925
1941
1930
1871
1861
1903
1924
1928
1954
1895
1932
1931
1912
1949
1934
1889
1871
1868
1880
1963
```

In [20]:

```
for i in body:
    print(type(i[4]))
```

```
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
```

In [21]:
```
for i in body:
    print(i[5])
```

```
-2013
-2007
-1943
-1944
-1927
-2013
-1927
-1984

-1953
-1985

-1957
-1972

-1965


-1959
```

In [22]:
```
for i in body:
    i[5] = i[5].strip("-")

for i in body:
    if i[5] == "":
        i[5] = 0
    else:
        continue

for i in body:
    i[5] = int(i[5])
    print(type(i[5]))
```

```
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
```

In [23]:
```
for i in body:
    print(i[5])
```

```
1946
0
1965
0
1941
0
2000
1954
0
0
0
1998
1985
0
0
1996
2003
1993
1995
0
```

In [24]:
```
for i in body:
    print(i[6])
```

```
2019)
2003S
2019
2019s
2019S
2019)
2019s
2021c
2021C
2021(
2014C
2020s
2021c
2021)
2021c
2021
2021(
2018s
2020
2019(
```

In [25]:

```
relyear = []
for i in body:
    if i[6] not in relyear:
        relyear.append(i[6])
    else:
        continue

relyear
```

```
 '1989s',
 '1991(',
 '1979S',
 '1980',
 '1986c',
 '1991',
 '1978',
 '1960S',
 '1988)',
 '1983C',
 '1973s',
 '1974S',
 '1966c',
 '1971C',
 '1962c',
 '1969s',
 '1992c',
 '1971',
 '1975c']
```

In [29]:

```
for i in body:
    print(i[6])
```

```
2012
2016
2015
2017
2017
2014
2017
2018
2018
2015
2014
2012
2015
2008
2019
2013
2014
2016
2013
```

In [30]:
```
for i in body:
    print(type(i[6]))
```

```
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
<class 'int'>
```

In [31]:
```
for i in data:
    print(i[7])
```

```
Department
**Prints & Illustrated Books**
**Prints & Illustrated Books**
**Prints & Illustrated Books**
**Prints & Illustrated Books**
**Photography**
**Prints & Illustrated Books**
**Photography**
**Photography**
**Prints & Illustrated Books**
**Prints & Illustrated Books**
**Prints & Illustrated Books**
**Prints & Illustrated Books**
**Prints & Illustrated Books**
**Drawings**
**Prints & Illustrated Books**
**Drawings**
**Prints & Illustrated Books**
**Prints & Illustrated Books**
```

In [32]:
```
dept = []
for i in body:
    if i[7] not in dept:
        dept.append(i[7])
    else:
        continue

dept
```

Out[32]:
```
['**Prints & Illustrated Books**',
 '**Photography**',
 '**Drawings**',
 '**Architecture & Design**',
 '**Film**',
 '**Painting & Sculpture**',
 '**Media and Performance Art**',
 '**Fluxus Collection**']
```

In [33]:
```
for i in body:
    i[7] = i[7].strip("**")
    print(i[7])
```

```
Prints & Illustrated Books
Painting & Sculpture
Film
Photography
Prints & Illustrated Books
Architecture & Design
Prints & Illustrated Books
Photography
Media and Performance Art
Architecture & Design
Prints & Illustrated Books
Architecture & Design
Photography
Photography
Prints & Illustrated Books
Drawings
Prints & Illustrated Books
Prints & Illustrated Books
Prints & Illustrated Books
Prints & Illustrated Books
```

In [34]:

```
for i in data:
    print(i[8])
```

```
appt_made_date
2014-12-18T00:00:00
2014-12-18T00:00:00
2014-12-18T00:00:00
2014-12-18T00:00:00
2014-12-18T00:00:00
2014-12-18T00:00:00
2014-12-18T00:00:00
2014-12-18T00:00:00
2014-12-18T00:00:00
2014-12-18T00:00:00
2014-12-18T00:00:00
2014-12-18T00:00:00
2014-12-18T00:00:00
2014-12-18T00:00:00
2014-12-18T00:00:00
2014-12-18T00:00:00
2014-12-18T00:00:00
2014-12-18T00:00:00
```

In [35]:

```
for i in body:
    i[8] = i[8].replace("T", " ")
    print(i[8])
```

```
2014-12-18 00:00:00
2014-12-18 00:00:00
2014-12-18 00:00:00
2014-12-18 00:00:00
2014-12-18 00:00:00
2014-12-18 00:00:00
2014-12-18 00:00:00
2014-12-18 00:00:00
2014-12-18 00:00:00
2014-12-18 00:00:00
2014-12-18 00:00:00
2014-12-18 00:00:00
2014-12-18 00:00:00
2014-12-18 00:00:00
2014-12-18 00:00:00
2014-12-18 00:00:00
2014-12-18 00:00:00
2014-12-18 00:00:00
2014-12-18 00:00:00
```

In [36]:

```
from datetime import datetime
```

In [37]:

```
df = "%Y-%m-%d %H:%M:%S"
```

In [38]:

```
for i in body:
    i[8] = datetime.strptime(i[8], df)
    print(type(i[8]))
```

```
<class 'datetime.datetime'>
<class 'datetime.datetime'>
<class 'datetime.datetime'>
<class 'datetime.datetime'>
<class 'datetime.datetime'>
<class 'datetime.datetime'>
<class 'datetime.datetime'>
<class 'datetime.datetime'>
<class 'datetime.datetime'>
<class 'datetime.datetime'>
<class 'datetime.datetime'>
<class 'datetime.datetime'>
<class 'datetime.datetime'>
<class 'datetime.datetime'>
<class 'datetime.datetime'>
<class 'datetime.datetime'>
<class 'datetime.datetime'>
<class 'datetime.datetime'>
<class 'datetime.datetime'>
<class 'datetime.datetime'>
```

In [ ]: