

# Week 1: Wednesday

## Data Literacy

### What is Data?

- What do you think?
- The quantities, characters, or symbols on which operations are performed by a computer, being stored and transmitted in the form electrical signals and recorded on magnetic, optical, or mechanical recording media. (Oxford languages dictionary)
- Things known or assumed as fact, making the basis for reasoning or calculation (Oxford languages dictionary)
- The symbolic representation of reality (me)

### All Data has a type

- integer (whole number) = 1
- float (decimal number) = 1.0
- string (text) = "text"
- boolean (true or false) = true
- date (date) = 1990-01-01 (YYYY-MM-DD)

### Why are these data types so important? Binary

- ones and zeroes
- 8 bits = 1 byte
- What limits the size of the data we can store?
- ASCII (American Standard code for information interchange, 1963)(128 characters) vs UTF-8 (1993)(1,112,064 characters)

## Complex Data Types

- list/array = [1, 2, 3]
- dictionary/object = {"key": "value"}
- tuple = (1, 2, 3)
- set = {1, 2, 3}

## How do we store data?

- CSV (comma separated values)
- TSV (tab separated values)
- JSON (JavaScript Object Notation)
- databases (SQL, NoSQL)
- text data (txt, doc, PDF)

## CSV

```
ID,Name,Birthday,Age
1,John,01/01/1990,31
2,Jane,02/02/1990,31
3,Jack,03/03/1990,31
```

## TSV

```
ID  Name    Birthday    Age
1   John    01/01/1990  31
2   Jane    02/02/1990  31
3   Jack    03/03/1990  31
```

## JSON

```
[{
  "ID": 1,
  "Name": "John",
  "Birthday": "01/01/1990",
  "Age": 31
},
```

```
{
  "ID": 2,
  "Name": "Jane",
  "Birthday": "02/02/1990",
  "Age": 31
}
```

## Text

- John is 31 years old. He was born on 01/01/1990.
- Jane is 31 years old. She was born on 02/02/1990.
- Jack is 31 years old. He was born on 03/03/1990.

## Different types of Data storage

- Structured data
- Semi-structured data
- Unstructured data

## Structured Data

ID	Name	Birthday	Age
1	John	01/01/1990	31
2	Jane	02/02/1990	31
3	Jack	03/03/1990	31

## Semi-structured Data

```
[{
  "ID": 1,
  "Name": "John",
  "Birthday": "01/01/1990",
  "Age": 31,
  "Family": {
    "Father": "Jack",
    "Mother": "Jill"
  }
}]
```

```

},
{
  "ID": 2,
  "Name": "Jane",
  "Birthday": "02/02/1990",
  "Age": 31,
  "Family": {
    "Father": "Jack",
    "Mother": "Jill"
  }
}
}]

```

## Unstructured Data

- John is 31 years old. He was born on 01/01/1990. His father is Jack and his mother is Jill.
- Jane is 31 years old. She was born on 02/02/1990. Her father is Jack and her mother is Jill.
- Jack is 31 years old. He was born on 03/03/1990. His father is Jack and his mother is Jill.

## Doing things with Data

Structured	Semi-structured	Unstructured
ex.CSV	ex.JSON	ex.Text
Easy to manipulate	Easy to manipulate	Hard to manipulate
not flexible	flexible	very flexible
very fast	fast	slow

## Making Data Work for You Example, part I

Français 16144. (G) III Années 1585-1603.

Sunday, March 26, 2017 3:25 PM

Berthier to Henri III, 29 jan 1585, bnf, fr 16144, 3a

- 
- **Deciphered Berthier to Henri III, 29 jan 1585, bnf, fr 16144, 7a**
  - Primarily dealing with some issues around Corfu and Candie, and the Pope offering to support the Candians with 50 galleys (7a)
  - "sus la dernière recherche notamment de l'espagnol continues de faire par les entremettements d'elles sur la sujet des lettres du Margliani a Osman Bassa don't..." expectation of the continuation of the suspension of arms with Spain will be accomplished. The "doubtes proposez par luy cy devant suivant la teneur[?] de ses precedents Si[y]a jus bassa, et ce julf Benneviste des l'annee dernière estre esclaves et la declaration d'iceux conforme[r] a l'intention de son prince." (7b)
  - Margliani offered to come [as] ambassador in this Porte. (7b)
  - [letters from the king of Fez to GS explain the fear of the growth of Spain to the detriment of GS]
    - "sujet des [lett]res du Roy de Fez portees par son ambassadeur a ces seigneur, l'arrivee duquel aud present jay cy devant note a vre m[ajest]e par lesquelles led Roy represente entre au[tr]es les desseins daggrandissement de celluy despaigne prejudicable notamment a ceste porte ausquels partant..." (8a)

Berthier to Henri III, 18 February 1585, BNF, Fr 16144, 10a  
Berthier to Henri III, 26 march 1585, BNF, Fr 16144, 12a  
Deciphered Berthier to Henri III, 26 March 1585, bNF, Fr 16144, 18a  
Berthier to Catherine de Medici, 26 March 1585, BNF, Fr 16144, 24a  
Berthier to Brulart, 29 March 1585, BNF, Fr 16144, 26a  
Deciphered Berthier to Brulart, 29 March 1585, BNF, Fr 16144, 28a  
Duplicate of the above, 29a  
Berthier to Henri III, 9 April 1585, BNF, Fr 16144, 31a  
Deciphered parts of Berthier to Henri III, 9 April 1585, BNF, Fr 16144, 36a  
Suite du Dechiffre of Berthier to Henri III, 9 April 1585, BNF, Fr 16144, 38a  
Berthier to Henri III, 17 April 1585, BNF, Fr 16144, 40a  
Deciphered Berthier to Henri III, 17 April 1585, BNF, Fr 16144, 42a  
Berthier to Henri III, 29 April 1585, BNF, Fr 16144, 44a  
Henri III to Berthier, 2 may 1585, BNF, Fr 16144, 46a  
Berthier to Henri III, 14 May 1585, BNF, Fr 16144, 47a  
Berthier to Henri III, 1 June 1585, BNF, Fr 16144, 49a  
Berthier to Henri III, 22 June 1585, BNF, Fr 16144, 51a  
Berthier to Henri III, 28 July 1585, BNF, Fr 16144, 53a  
Berthier to Henri III, 22 August 1585, BNF, Fr 16144, 57a  
Henri III to Berthier, 29 August 1585, BNF, Fr 16144, 59a  
Berthier to Henri III, 4 September 1585, BNF, Fr 16144, 60a  
Commandement de la Pote U Beglierbey d'Alger de faire rendre par Morat Reys d'Alger 24000 balles de soye qu'il a pris a Roland Henrys et Nicolas Dussio Marchands Francois, 9 September 1585, BNF, Fr 16144, 62a  
Berthier to Henri III, 18 septembert 1585, BNF, Fr 16144, 64a  
Commandement de la porte au Begliebey du Cayre Sinan de relascher Pao Mariani Consul des Francois au Cayre, 24 September 1585, 66a  
Memoire du present fait par Ibrahim Bassa a ce Seigneur, 1 October 1585, 68a  
Berthier to Henri III, 2 October 1585, BNF, Fr 16144, 69a  
Berthier to Henri III, 16 October 1585, BNF, Fr 16144, 72a  
Deciphered parts of Berthier to Henri III, 16 October 1585, BNF, Fr 16144, 74a

Figure 1: My notes on a Manuscript

## Making Data Work for You Example, part II

Berthier, Sébastien to Henri III, King of France-- , 29 january 1585-- , Istanbul-- , 3-- , r  
Corfu: Primarily dealing with some issues around Corfu and Candie, and the Pope offering  
Crete: Primarily dealing with some issues around Corfu and Candie, and the Pope offering  
Spain: "sus la dernière recherche notamment de l'espagnol continues de faire par les entremettements d'elles sur la sujet des lettres du Margliani a Osman Bassa don't..."  
Margliani, Giovanni: "sus la dernière recherche notamment de l'espagnol continues de faire par les entremettements d'elles sur la sujet des lettres du Margliani a Osman Bassa don't..."  
Özdemiroğlu Osman Pasha: "sus la dernière recherche notamment de l'espagnol continues de faire par les entremettements d'elles sur la sujet des lettres du Margliani a Osman Bassa don't..."

## Making Data Work for You Example, part III

```
{"src": {
  "author": "Berthier, Sébastien",
  "recipient": "Henri III, King of France",
  "title": "Berthier, Sébastien to Henri III, King of France, 29 january 1585",
  "date": "1585-01-29",
  "auth_loc_town": "Istanbul",
  "pages": " 3 r-"},
  "notes": [{
    "text": "Primarily dealing with some issues around Corfu and Candie, and the Pope offering",
    "tag": "Corfu"},
    {"text": "Primarily dealing with some issues around Corfu and Candie, and the Pope offering",
    "tag": "Crete"},
    {"text": "'sus la derniere recherche notamment de l'espagnol continues de faison par les",
    "tag": "Spain"},
    {"text": "'sus la derniere recherche notamment de l'espagnol continues de faison par les",
    "tag": "Margliani, Giovanni"}]
}
```

## What can be data?

- What do you think?