

# Data Types in R

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Stat 133 with Gaston Sanchez

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# DCD

## Data Computing Diagram

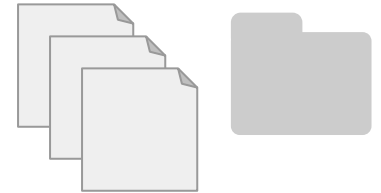
Data  
Sets



Software &  
Languages



Code, Scripts,  
Programs



Computers



Analyst /Scientist

## We'll be working with “Data”

How do statisticians / analysts think of data?

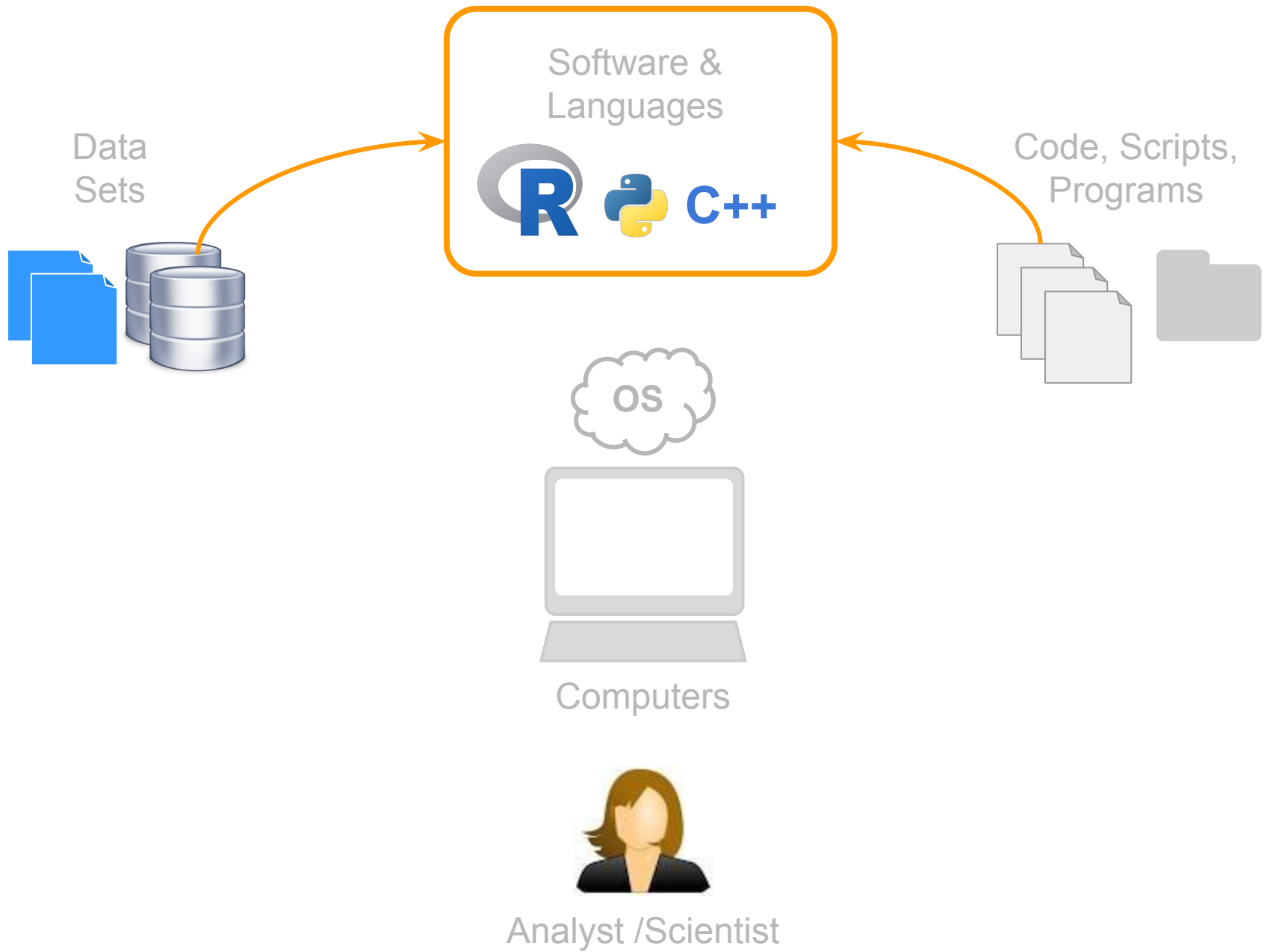
How do computers treat data?

How do data sets get stored?

How do programs “understand” data?

Be the **boss** of  
your **data**

How do programming  
languages handle data?



# Data for Software / Languages?

Data  
Types

*Basic kinds*

Data  
Structures

*Containers*



# Data Types (for programming languages)

Also refer to as *data primitives* or primitive types

They serve as the building blocks (i.e. they are like the atoms)

# Common Data Types (for programming languages)

- Integers (i.e. whole numbers)
- Real numbers (i.e. decimal numbers)
- Boolean (i.e. logical)
- Character (i.e. strings)

## Common Data Types (for programming languages)

In many programming languages, everytime you create an object or a variable, you must declare its type:

```
char first_name
```

```
int age
```

*(you don't have to do this in R)*

# Data Types in R

## Data types in R

- **Integer** (whole numbers)
- **Double** (real, decimal numbers)
- **Logical** (boolean)
- **Character** (or strings)
- *\*Complex (rarely used)*
- *\*Raw (rarely used)*

## Data Types (primitives)

`1L`        `# integer`

`2.5`       `# double (real)`

`TRUE`      `# logical`

`"hello"`    `# character`

`1 + 3i`    `# complex`