Ejercicio 3.1 Documentación de DataFrame

* Propiedades más importantes  
  Es mutable puede ser heterogéneo

permite hacer operaciones aritméticas entre columnas y renglones

[columns](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.columns.html#pandas.DataFrame.columns) The column labels of the DataFrame.

[dtypes](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.dtypes.html#pandas.DataFrame.dtypes) Return the dtypes in the DataFrame.

[iloc](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.iloc.html#pandas.DataFrame.iloc) Purely integer-location based indexing for selection by position.

[loc](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.loc.html#pandas.DataFrame.loc) Access a group of rows and columns by label(s) or a boolean array.

[shape](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.shape.html#pandas.DataFrame.shape) Return a tuple representing the dimensionality of the DataFrame.

[values](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.values.html#pandas.DataFrame.values) Return a Numpy representation of the DataFrame.

* Funciones más importantes

[aggregate](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.aggregate.html#pandas.DataFrame.aggregate)([func, axis]) Aggregate using one or more operations over the specified axis.

[append](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.append.html#pandas.DataFrame.append)(other[, ignore\_index, ...]) (DEPRECATED) Append rows of other to the end of caller, returning a new object.

[apply](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.apply.html#pandas.DataFrame.apply)(func[, axis, raw, result\_type, args]) Apply a function along an axis of the DataFrame.

[astype](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.astype.html#pandas.DataFrame.astype)(dtype[, copy, errors]) Cast a pandas object to a specified dtype dtype.

[drop](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.drop.html#pandas.DataFrame.drop)([labels, axis, index, columns, level, ...]) Drop specified labels from rows or columns.

[drop\_duplicates](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.drop_duplicates.html#pandas.DataFrame.drop_duplicates)([subset, keep, inplace, ...]) Return DataFrame with duplicate rows removed.

[droplevel](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.droplevel.html#pandas.DataFrame.droplevel)(level[, axis]) Return Series/DataFrame with requested index / column level(s) removed.

[dropna](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.dropna.html#pandas.DataFrame.dropna)([axis, how, thresh, subset, inplace]) Remove missing values.

[duplicated](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.duplicated.html#pandas.DataFrame.duplicated)([subset, keep]) Return boolean Series denoting duplicate rows.

[groupby](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.groupby.html#pandas.DataFrame.groupby)([by, axis, level, as\_index, sort, ...]) Group DataFrame using a mapper or by a Series of columns.

[isna](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.isna.html#pandas.DataFrame.isna)() Detect missing values.

[isnull](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.isnull.html#pandas.DataFrame.isnull)() DataFrame.isnull is an alias for DataFrame.isna.

[head](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.head.html#pandas.DataFrame.head)([n]) Return the first n rows.

[keys](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.keys.html#pandas.DataFrame.keys)() Get the 'info axis' (see Indexing for more).

Todos los descriptivos de estadísticos

[mean](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.mean.html#pandas.DataFrame.mean)([axis, skipna, level, numeric\_only]) Return the mean of the values over the requested axis.

[median](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.median.html#pandas.DataFrame.median)([axis, skipna, level, numeric\_only]) Return the median of the values over the requested axis.

[mode](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.mode.html#pandas.DataFrame.mode)([axis, numeric\_only, dropna]) Get the mode(s) of each element along the selected axis.

* Agrupaciones que puedes detectar

[GroupBy.count](https://pandas.pydata.org/docs/reference/api/pandas.core.groupby.GroupBy.count.html#pandas.core.groupby.GroupBy.count)() Compute count of group, excluding missing values.

[GroupBy.max](https://pandas.pydata.org/docs/reference/api/pandas.core.groupby.GroupBy.max.html#pandas.core.groupby.GroupBy.max)([numeric\_only, min\_count]) Compute max of group values.

[GroupBy.mean](https://pandas.pydata.org/docs/reference/api/pandas.core.groupby.GroupBy.mean.html#pandas.core.groupby.GroupBy.mean)([numeric\_only, engine, ...]) Compute mean of groups, excluding missing values.

[GroupBy.median](https://pandas.pydata.org/docs/reference/api/pandas.core.groupby.GroupBy.median.html#pandas.core.groupby.GroupBy.median)([numeric\_only]) Compute median of groups, excluding missing values.

[GroupBy.min](https://pandas.pydata.org/docs/reference/api/pandas.core.groupby.GroupBy.min.html#pandas.core.groupby.GroupBy.min)([numeric\_only, min\_count]) Compute min of group values.

[GroupBy.std](https://pandas.pydata.org/docs/reference/api/pandas.core.groupby.GroupBy.std.html#pandas.core.groupby.GroupBy.std)([ddof, engine, engine\_kwargs]) Compute standard deviation of groups, excluding missing values.

* Qué cambiarías de la estructura de la implementación del DF

Creemos, por lo que hemos usado hasta ahora pandas.DataFrame que tiene una implementación muy intuitiva y útil por lo que no creemos pertinente cambiar nada de ella.