

Instrumento de evaluación

Materia :	Extracción de conocimientos de base de datos	Unidad:	1,2	Tipo de Instrumento:	3
Actividad:	Exam			Tipo de Reactivo:	2,6,7

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Nombre de Alumno(a): Victor Galvan Fecha: 05/10/2022

I. ANSWER THE FOLLOWING QUESTIONS WITH YOUR OWN WORDS (10 pts)

1. What is the function of the pandas library?

Panda is generally use to import data collected so we can work easily with relational labels

2. What is the function of the matplotlib library?

Matplotlib is use for graphics of different kinds. In statistics this graphs help us to analyze big amounts of information.

3. What is the function of the numpy library?

Numpy is a library in python that we import whenever we want to work with arrays. It also comes with a variety of mathematical functions that will be useful in our analysis.

4. Definitions of:

A. Artificial Intelligence

Simulation of human intelligence by machines programmed to imitate out behavior, more especially, complex computer systems.

B. machine learning

Branch of AI that is focus on the use of algorithms to learn and improve by itself.

C. data mining

The process of extract multiple information from any kind of data collected. Generally big amounts. In this way and analysis can be made and define new actions based on the results.

D. big data.

Collection of data in high volume. This with the purpose of being interpreted by a somebody or a AI itself.

Tipo de reactivo

1. Falso/Verdadero
2. Respuesta corta
3. Opción múltiple
4. De relación
5. Preguntas de análisis
6. Casos prácticos
7. Ejercicios para resolver

Tipo de Instrumento

1. Rubrica
2. Lista de cotejo
3. Reactivos

FAC-EA-04
REV02

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II. MAKE THE FOLLOWING EXERCISSE (20 PTS)

A) Use jupyter and the pandas library to:

1. Charge the following csv
2. Use the .shape to count the rows
3. Use the .info
4. Use the .head to show the first 20 values
5. Use the .describe to show the principal values
6. Show the minimum values of open, high, low and close
7. Show the maximum values of open, high, low and close

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The image displays two screenshots of a Jupyter Notebook environment. The first screenshot shows the initial code cells: importing pandas as 'pd', reading a CSV file named 'exam.csv' into a variable 'datos', checking the shape of 'datos' (1258, 7), and displaying the information of 'datos'. The second screenshot shows the same code cells with their outputs: the shape (1258, 7), the detailed information of the DataFrame (including column names, non-null counts, and dtypes), and the first 20 rows of the data (head(20)).

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The screenshot shows a Jupyter Notebook environment with the following content:

```

6 volume      1258 non-null int64
dtypes: int64(1), object(6)
memory usage: 68.9+ KB

In [32]: datos.head(20)
Out[32]:
   date      open      high      low      close  adj_close  volume
0 2012-01-03  1.258.859.985  1.284.619.995  1.258.859.985  1.277.060.059  1.277.060.059  3943710000
1 2012-01-04  1.277.030.029  1.278.729.980  1.268.099.976  1.277.300.049  1.277.300.049  3592580000
2 2012-01-05  1.277.300.049  1.283.050.049  1.265.260.010  1.281.060.059  1.281.060.059  4315950000
3 2012-01-06  1.280.930.054  1.281.839.966  1.273.339.966  1.277.810.059  1.277.810.059  3656830000
4 2012-01-09  1.277.829.956  1.281.989.990  1.274.550.049  1.280.699.951  1.280.699.951  3371600000
5 2012-01-10  1.280.770.020  1.296.459.961  1.280.770.020  1.292.079.956  1.292.079.956  4221960000
6 2012-01-11  1.292.020.020  1.293.800.049  1.285.410.034  1.292.479.980  1.292.479.980  3968120000
7 2012-01-12  1.292.479.980  1.296.819.946  1.285.770.020  1.295.500.000  1.295.500.000  4019890000
8 2012-01-13  1.294.819.946  1.294.819.946  1.277.579.956  1.289.089.966  1.289.089.966  3692370000
9 2012-01-17  1.290.219.971  1.303.000.000  1.290.219.971  1.293.670.044  1.293.670.044  4010490000
10 2012-01-18  1.293.650.024  1.308.109.985  1.290.989.990  1.308.040.039  1.308.040.039  4096160000
11 2012-01-19  1.308.069.946  1.315.489.990  1.308.069.946  1.314.500.000  1.314.500.000  4465890000
12 2012-01-20  1.314.489.990  1.315.380.005  1.309.170.044  1.315.380.005  1.315.380.005  3912620000
13 2012-01-23  1.315.290.039  1.322.280.029  1.309.890.015  1.316.000.000  1.316.000.000  3770910000
14 2012-01-24  1.315.959.961  1.315.959.961  1.306.060.059  1.314.650.024  1.314.650.024  3693560000
15 2012-01-25  1.314.400.024  1.328.300.049  1.307.650.024  1.326.060.059  1.326.060.059  4410910000
16 2012-01-26  1.326.280.029  1.333.469.971  1.313.599.976  1.318.430.054  1.318.430.054  4522070000
17 2012-01-27  1.318.250.000  1.320.060.059  1.311.719.971  1.316.329.956  1.316.329.956  4007380000
18 2012-01-30  1.316.160.034  1.316.160.034  1.300.489.990  1.313.010.010  1.313.010.010  3659010000
19 2012-01-31  1.313.530.029  1.321.410.034  1.306.689.941  1.312.410.034  1.312.410.034  4235550000

In [33]: datos.describe()
Out[33]:
volume

```

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The image displays two screenshots of a Jupyter Notebook interface, likely used for data analysis. The top screenshot shows the initial state of the notebook with a single code cell containing the command `datos.describe()`. The output displays statistical summary information for a dataset, including count, mean, standard deviation, minimum, and maximum values for various columns. The bottom screenshot shows the notebook after several more code cells have been executed, demonstrating operations like finding minimum and maximum values for specific columns (e.g., `datos['open'].min()`, `datos['high'].min()`, `datos['low'].min()`, `datos['close'].min()`, `datos['open'].max()`, and `datos['high'].max()`). The interface includes a menu bar (File, Edit, View, Insert, Cell, Kernel, Widgets, Help) and a toolbar with icons for running code, saving, and other notebook functions. The status bar at the bottom indicates the current kernel is Python 3 (ipykernel).

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```

In [36]: datos['low'].min()
Out[36]: '1.258.859.985'

In [37]: datos['close'].min()
Out[37]: '1.277.060.059'

In [38]: datos['open'].max()
Out[38]: '2.270.540.039'

In [39]: datos['high'].max()
Out[39]: '2.277.530.029'

In [40]: datos['low'].max()
Out[40]: '2.266.149.902'

In [41]: datos['close'].max()
Out[41]: '2.271.719.971'

In [ ]:

```

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