

INF-354-1P-P9

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1 Pimer Parcial de Inteligencia Artificial

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1.0.2 Pregunta 9: Con PYTHON sin librerías construya los índices de al menos dos ciclos para un Split de Train 80 y test de 20, aplíquelo en el dataset iris.

```
[ ]: #Importamos el modulo de Google Drive
#from google.colab import drive
#Montamos la carpeta content de Drive
#drive.mount("/content/drive")
#Asignamos la ruta donde se encuentra nuestro dataset
#archivo="/content/drive/MyDrive/data/iris.csv"
#importamos la libreria random
import random
#importamos la libreria csv
import csv

archivo = "iris.csv"
```

Drive already mounted at /content/drive; to attempt to forcibly remount, call drive.mount("/content/drive", force_remount=True).

```
[ ]: #funcion para obtener X y y
def obtenerDatos(ruta):
    #X tendra los registros menos la columna de la variable objetivo similar a
    ↪iris.data
    X = []
    #Almacenara los registros de los tipos de flor similar a iris.target
    y = []
    with open(ruta, 'r', newline='') as dataset:
        lector_csv = csv.reader(dataset)

        # Leemos cada fila del archivo CSV
        for fila in lector_csv:
            # Agregamos todas las columnas excepto la última a X
            X.append(fila[:-1])
            # Agregamos la última columna a y
            y.append(fila[-1])
```

```

#Eliminamos las cabeceras y convertimos los datos a float
X = [[float(elemento) for elemento in fila] for fila in X[1:]]
#Eliminamos las cabeceras
y = y[1:]
return X, y

```

```

[ ]: X,y = obtenerDatos(archivo)
print(X)
print(y)

```

```

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```

```
[ ]: #Definimos la proporcion del 80% para entrenamiento
proporcion_entrenamiento = 0.8
#Definimos la proporcion del 20% para prueba
proporcion_prueba = 0.2
#Cantidad de registros del dataset
muestras = 150
#Definimos el numero de ciclos del split
n = 2

#Realizamos el split de dos ciclos
for i in range(n):
    #definimos los indices
    indices = list(range(muestras))
    #mezclamos los indices dentro de la lista
    random.shuffle(indices)
    #cantidad de muestras para train
```

```

num_train = int(muestras * proporcion_entrenamiento)
#cantidad de muestras para test
num_test = int(muestras * proporcion_prueba)
#indices para entrenamieto
train_indices = indices[:num_train]
#indices para prueba
test_indices = indices[num_train:]

#Obtenemos los datos de entrenamiento y de prueba para X y y
X_train = [X[i] for i in train_indices]
y_train = [y[i] for i in train_indices]

X_test = [X[i] for i in test_indices]
y_test = [y[i] for i in test_indices]

#mostramos los resultados
print(f"Ciclo numero: {i+1}")
print(f"Numero de datos de entrenamiento: {num_train}")
print(f"Numero de datos de prueba: {num_test}")
#Mostramos X_train
print("X_train")
print(X_train)
print("y_train")
print(y_train)
print("X_test")
print(X_test)
print("y_test")
print(y_test)
print()

```

Ciclo numero: 1

Numero de datos de entrenamiento: 120

Numero de datos de prueba: 30

X_train

```

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y_train

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X_test

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y_test
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Ciclo numero: 2

Numero de datos de entrenamiento: 120

Numero de datos de prueba: 30

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