6. Formación de un modelo de predicción de series temporales basado en RNN

A partir del código base proporcionado, se completa la construcción de un modelo de predicción de series temporales utilizando una **Red Neuronal Recurrente (RNN)**. El modelo recibe una serie de datos escalados y aprende a predecir el valor futuro con base en ventanas de observaciones pasadas.

```
In [2]: import pandas as pd
        import numpy as np
        from sklearn.model_selection import train_test_split
        from sklearn.preprocessing import MinMaxScaler
        import tensorflow as tf
        import matplotlib.pyplot as plt
In [3]: #? Lectura de datos
        df = pd.read_csv(r'./data_boston.csv',
                        header='infer',
                        encoding='latin1')
        df = df[['PRICE']]
In [4]: #? Escalar los datos
        scaler = MinMaxScaler()
        scaleddata = scaler.fit_transform(df)
In [5]: #? Crear datos de entrada para RNN
        def crear_secuencias(data, lensec=5):
            """Creacion de datos de entrada
            data = datos a introducir
            lensec = secuencia de datos por defecto 5"""
            X, y = [], []
            for i in range (len(data) - lensec):
                X.append(data[i:i+lensec])
                y.append(data[i+lensec])
            return np.array(X), np.array(y)
        lensecuencias = 5
        X, y = crear_secuencias(scaleddata)
In [6]: #? Dividir datos en entrenamiento y prueba
        X_train, X_test, y_train, y_test = train_test_split(X, y,
                                                             test_size=0.2,
                                                             shuffle=False)
In [7]: #? Parámetros de entrenamiento
        batch size = 1
        n = 1000
        learn_rate = 0.0001
```

```
In [8]: #? Definicion del modelo RNN
         model = tf.keras.Sequential()
         model.add(tf.keras.layers.SimpleRNN(50, activation='tanh', return_sequences=False,
         model.add(tf.keras.layers.Dense(1))
        c:\Users\chapu\Documents\Repositorios2\Samsung_InovationCampus\env\Lib\site-packages
        \keras\src\layers\rnn\rnn.py:200: UserWarning: Do not pass an `input_shape`/`input_d
        im` argument to a layer. When using Sequential models, prefer using an `Input(shape)
        ` object as the first layer in the model instead.
          super().__init__(**kwargs)
In [9]: #? Compilar modelo
         model.compile(optimizer=tf.keras.optimizers.Adam(learning_rate=learn_rate),
                     loss='mse')
In [10]: #? Entrenar modelo
         history = model.fit(X_train, y_train,
                             epochs=n_epochs,
                             batch_size=batch_size,
                             validation_data=(X_test, y_test),
                             verbose=1)
```

Epoch 1/1000								
400/400	15	2ms/sten	_	loss:	0.0484	_	val loss:	0.0103
Epoch 2/1000		23, эсер		1055.	0.0.0.		V41_1033.	0.0103
400/400	1 s	1ms/step	-	loss:	0.0243	_	val_loss:	0.0107
Epoch 3/1000								
400/400	1 s	1ms/step	-	loss:	0.0288	-	<pre>val_loss:</pre>	0.0112
Epoch 4/1000								
400/400	0s	1ms/step	-	loss:	0.0196	-	val_loss:	0.0096
Epoch 5/1000 400/400 ————————————————————————————————	1.	1mc/ston		10001	0 0226		val lassi	0 0001
Epoch 6/1000	12	IIIS/Step	-	1055.	0.0220	-	va1_1055.	0.0091
400/400	1s	1ms/step	_	loss:	0.0263	_	val loss:	0.0097
Epoch 7/1000		, ,					_	
400/400 —————	0s	1ms/step	-	loss:	0.0216	-	<pre>val_loss:</pre>	0.0093
Epoch 8/1000								
400/400	0s	1ms/step	-	loss:	0.0232	-	val_loss:	0.0093
Epoch 9/1000	4 -	1/-+		1	0.0103			0.0000
400/400 ———————————————————————————————————	15	ıms/step	-	1055:	0.0193	-	vai_ioss:	0.0090
400/400	15	1ms/sten	_	loss:	0.0207	_	val loss:	0.0118
Epoch 11/1000		0, 5 ccp			0.020			0.0220
400/400	1 s	1ms/step	-	loss:	0.0204	-	val_loss:	0.0091
Epoch 12/1000								
400/400	1 s	1ms/step	-	loss:	0.0202	-	val_loss:	0.0088
Epoch 13/1000	0-	1		1	0.0100			0.0100
400/400 ———————————————————————————————————	05	ıms/step	-	1055:	0.0198	-	vai_ioss:	0.0100
400/400	0s	1ms/step	_	loss:	0.0201	_	val loss:	0.0107
Epoch 15/1000		, с сор						
400/400 —————	1 s	1ms/step	-	loss:	0.0217	-	<pre>val_loss:</pre>	0.0108
Epoch 16/1000								
400/400	1 s	1ms/step	-	loss:	0.0204	-	val_loss:	0.0094
Epoch 17/1000 400/400 ————————————————————————————————	1¢	1ms/sten	_	1000	a a2a8	_	val loss.	a aag1
Epoch 18/1000	13	тіііз/ эсер		1033.	0.0200		va1_1033.	0.0051
400/400	1 s	1ms/step	-	loss:	0.0221	-	val_loss:	0.0102
Epoch 19/1000								
	1 s	1ms/step	-	loss:	0.0211	-	<pre>val_loss:</pre>	0.0110
Epoch 20/1000	4 -	4 / 1		,	0 0004			0 0407
400/400 ———————————————————————————————————	15	ıms/step	-	1055:	0.0201	-	vai_ioss:	0.0127
400/400	1s	1ms/step	_	loss:	0.0216	_	val loss:	0.0104
Epoch 22/1000		-,					_	
400/400 —————	0s	1ms/step	-	loss:	0.0169	-	<pre>val_loss:</pre>	0.0099
Epoch 23/1000								
400/400	0s	1ms/step	-	loss:	0.0217	-	val_loss:	0.0093
Epoch 24/1000 400/400 ————————————————————————————————	۵c	1mc/cton	_	1000	0 0197	_	val loss:	0 0106
Epoch 25/1000	03	IIIS/Scep	-	1055.	0.0107	_	va1_1055.	0.0100
400/400 ————	0s	1ms/step	_	loss:	0.0195	_	val loss:	0.0093
Epoch 26/1000		·					_	
400/400	0s	1ms/step	-	loss:	0.0241	-	<pre>val_loss:</pre>	0.0091
Epoch 27/1000	_			,				
400/400 ————————————————————————————————	0s	1ms/step	-	loss:	0.0226	-	var_loss:	0.0090
Epoch 28/1000 400/400 ————————————————————————————————	۵c	1ms/sten	_	1055.	0.0242	_	val loss.	0.0094
-00/ - 00	03	-1113/3ceh	-	1033.	0.0242	_	var_1033.	0.0094

Frank 20/1000								
Epoch 29/1000 400/400 ————————————————————————————————	. 1.	1mc/cton		1000	0 0206		val locc:	0 0101
Epoch 30/1000	13	IIIS/Step	_	1055.	0.0200	_	va1_1055.	0.0101
400/400	. 1c	2ms/sten	_	1055.	0 0175	_	val loss:	a a1aa
Epoch 31/1000	13	21113/3сср		1033.	0.01/5		Va1_1033.	0.0100
400/400 —————	- 1s	1ms/step	_	loss:	0.0163	_	val loss:	0.0117
Epoch 32/1000		о, о сор						
400/400	1 s	1ms/step	_	loss:	0.0221	_	val loss:	0.0098
Epoch 33/1000		·					_	
400/400	1 s	1ms/step	-	loss:	0.0181	-	<pre>val_loss:</pre>	0.0170
Epoch 34/1000								
400/400	1 s	1ms/step	-	loss:	0.0226	-	val_loss:	0.0094
Epoch 35/1000								
400/400	15	1ms/step	-	loss:	0.0277	-	val_loss:	0.0098
Epoch 36/1000 400/400 ————————————————————————————————	. 1.	1mc/c+on		10001	0 0175		val locci	0 0100
Epoch 37/1000	. 12	Illis/scep	_	1055.	0.01/5	-	va1_1055.	0.0109
400/400	95	1ms/sten	_	loss:	0.0189	_	val loss:	0.0105
Epoch 38/1000	05	23, 3 сер		1055.	0.0103		.41_1055.	0.0103
400/400	1 s	1ms/step	_	loss:	0.0203	_	val_loss:	0.0096
Epoch 39/1000								
400/400	1 s	1ms/step	-	loss:	0.0201	-	<pre>val_loss:</pre>	0.0094
Epoch 40/1000								
400/400	1 s	1ms/step	-	loss:	0.0222	-	val_loss:	0.0112
Epoch 41/1000	1.	1		1	0 0202			0 0007
400/400 ———————————————————————————————————	15	ıms/step	-	TOSS:	0.0202	-	val_loss:	0.0097
400/400	. as	1ms/sten	_	loss.	0 0208	_	val loss.	0 0097
Epoch 43/1000	03	тшэ, эсср		1033.	0.0200		va1_1055.	0.0057
400/400	1 s	1ms/step	-	loss:	0.0176	_	val_loss:	0.0096
Epoch 44/1000								
400/400	0s	1ms/step	-	loss:	0.0203	-	<pre>val_loss:</pre>	0.0111
Epoch 45/1000								
400/400	0s	1ms/step	-	loss:	0.0197	-	val_loss:	0.0097
Epoch 46/1000 400/400 ————————————————————————————————	0-	1		1	0 0222			0 0007
Epoch 47/1000	. 62	Ims/scep	-	1055:	0.0232	-	va1_1055:	0.0097
400/400	95	1ms/sten	_	loss:	0.0163	_	val loss:	0.0097
Epoch 48/1000	•	о, о сер			0.0200			
400/400	0s	1ms/step	-	loss:	0.0184	_	val_loss:	0.0116
Epoch 49/1000								
400/400	1 s	1ms/step	-	loss:	0.0201	-	<pre>val_loss:</pre>	0.0105
Epoch 50/1000				_				
400/400	1s	1ms/step	-	loss:	0.0203	-	val_loss:	0.0108
Epoch 51/1000 400/400 ————————————————————————————————	. 1.	1mc/c+on		10001	0 0106		val locci	0 0102
Epoch 52/1000	13	IIIS/Step	_	1055.	0.0190	_	va1_1055.	0.0102
400/400 ————	- 1s	1ms/step	_	loss:	0.0194	_	val loss:	0.0104
Epoch 53/1000		-,					_	
400/400	1 s	1ms/step	-	loss:	0.0190	-	<pre>val_loss:</pre>	0.0105
Epoch 54/1000								
400/400	1 s	1ms/step	-	loss:	0.0235	-	<pre>val_loss:</pre>	0.0112
Epoch 55/1000	_							
400/400 ————————————————————————————————	0s	1ms/step	-	loss:	0.0176	-	val_loss:	0.0108
Epoch 56/1000 400/400 ————————————————————————————————	. 1.	1mc/c+05		1000	0 0107		val locci	0 0102
400/400	TS	TIII2/21eb	-	TOSS:	אפדמים,	-	A9T_1022:	Ø.0103

- I (1000								
Epoch 57/1000 400/400 ————————————————————————————————	1¢	1ms/sten	_	1055.	0 0196	_	val loss:	0 0109
Epoch 58/1000	13	тіііз/ эсер		1033.	0.0130		va1_1033.	0.0103
400/400	1 c	1ms/sten	_	1055.	a a196	_	val loss:	0 0114
Epoch 59/1000	13	тшэ/ эсср		1033.	0.0130		va1_1033.	0.0114
400/400 ————	95	1ms/sten	_	loss:	0.0206	_	val loss:	0.0120
Epoch 60/1000	03	тэ, эсср		1033.	0.0200		va1_1055.	0.0120
400/400 ————	15	1ms/sten	_	loss:	0.0194	_	val loss:	0.0136
Epoch 61/1000		тэ, эсер		1055.	0.013.		·u1_1033.	0.0130
400/400	1s	1ms/step	_	loss:	0.0184	_	val loss:	0.0103
Epoch 62/1000		-,						
400/400	1 s	1ms/step	_	loss:	0.0172	_	val loss:	0.0100
Epoch 63/1000		·					_	
400/400	1 s	1ms/step	-	loss:	0.0156	-	<pre>val_loss:</pre>	0.0138
Epoch 64/1000								
400/400	1 s	1ms/step	-	loss:	0.0191	-	<pre>val_loss:</pre>	0.0100
Epoch 65/1000								
400/400 ————	0s	1ms/step	-	loss:	0.0210	-	<pre>val_loss:</pre>	0.0106
Epoch 66/1000								
400/400	0s	1ms/step	-	loss:	0.0206	-	<pre>val_loss:</pre>	0.0128
Epoch 67/1000								
400/400 ————	0s	1ms/step	-	loss:	0.0256	-	val_loss:	0.0112
Epoch 68/1000								
400/400 ————	1 s	1ms/step	-	loss:	0.0216	-	val_loss:	0.0109
Epoch 69/1000				_				
400/400	0s	1ms/step	-	loss:	0.0159	-	val_loss:	0.0114
Epoch 70/1000	_			-				
400/400 ————————————————————————————————	0 S	1ms/step	-	loss:	0.01/9	-	val_loss:	0.0115
Epoch 71/1000	0-	1/-+		1	0.0170		1 1	0.0143
400/400 ————————————————————————————————	05	ıms/step	-	TOSS:	0.01/9	-	var_ross:	0.0142
Epoch 72/1000 400/400 ————————————————————————————————	00	1mc/c+on		1000	0 0245		val locce	0 0101
Epoch 73/1000	05	IIIS/Step	_	1055.	0.0245	-	va1_1055.	0.0101
•	۵s	1ms/sten	_	1055.	0 0207	_	val_loss:	0 0112
Epoch 74/1000	03	тшэ/ эсср		1033.	0.0207		va1_1033.	0.0112
400/400 ————	1s	1ms/sten	_	loss:	0.0187	_	val loss:	0.0098
Epoch 75/1000		о, о о о р						
400/400 ————	1 s	1ms/step	_	loss:	0.0198	_	val loss:	0.0132
Epoch 76/1000		· r					_	
•	1 s	2ms/step	_	loss:	0.0200	_	val_loss:	0.0103
Epoch 77/1000		•					_	
400/400 ————	1 s	1ms/step	-	loss:	0.0198	-	<pre>val_loss:</pre>	0.0104
Epoch 78/1000		•					_	
400/400 ————	1 s	1ms/step	-	loss:	0.0245	-	<pre>val_loss:</pre>	0.0104
Epoch 79/1000								
400/400	1 s	1ms/step	-	loss:	0.0178	-	<pre>val_loss:</pre>	0.0118
Epoch 80/1000								
400/400	1 s	1ms/step	-	loss:	0.0185	-	<pre>val_loss:</pre>	0.0102
Epoch 81/1000								
400/400 ————	1 s	2ms/step	-	loss:	0.0175	-	<pre>val_loss:</pre>	0.0126
Epoch 82/1000								
400/400	1 s	1ms/step	-	loss:	0.0206	-	<pre>val_loss:</pre>	0.0104
Epoch 83/1000								
400/400 ————	1 s	1ms/step	-	loss:	0.0191	-	val_loss:	0.0113
Epoch 84/1000				_				
400/400	1 s	1ms/step	-	loss:	0.0230	-	val_loss:	0.0106

Enach 95/1000								
Epoch 85/1000 400/400 ————————————————————————————————	1 5	1ms/sten	_	loss.	0 0205	_	val loss:	a a1a9
Epoch 86/1000		тшэ, эсср		1033.	0.0203		va1_1055.	0.0103
400/400 ————	1 s	1ms/step	_	loss:	0.0215	_	val loss:	0.0116
Epoch 87/1000							_	
400/400	1 s	2ms/step	-	loss:	0.0189	-	<pre>val_loss:</pre>	0.0103
Epoch 88/1000								
400/400	1 s	2ms/step	-	loss:	0.0213	-	<pre>val_loss:</pre>	0.0116
Epoch 89/1000				_				
400/400	1s	1ms/step	-	loss:	0.0255	-	val_loss:	0.0105
Epoch 90/1000 400/400 ———————————————————————————————————	1.	1mc/c+on		10001	0 0104		val locci	0 0100
Epoch 91/1000	13	IIIS/Step	_	1055.	0.0104	_	va1_1055.	0.0100
400/400 —————	1s	1ms/step	_	loss:	0.0191	_	val loss:	0.0102
Epoch 92/1000		-,					_	
400/400	1 s	2ms/step	-	loss:	0.0190	-	<pre>val_loss:</pre>	0.0110
Epoch 93/1000								
400/400	1 s	1ms/step	-	loss:	0.0202	-	<pre>val_loss:</pre>	0.0105
Epoch 94/1000	4.	2 / 1		,	0 0000			0.0443
400/400 ———————————————————————————————————	15	2ms/step	-	loss:	0.0202	-	var_ross:	0.0113
400/400	1ς	1ms/sten	_	loss.	0 0212	_	val loss:	0 0105
Epoch 96/1000		23, 3 сер		1055.	0.0212		·u1_1055.	0.0103
400/400	1 s	1ms/step	-	loss:	0.0165	_	val_loss:	0.0101
Epoch 97/1000								
400/400 ————	1 s	2ms/step	-	loss:	0.0207	-	<pre>val_loss:</pre>	0.0119
Epoch 98/1000				_				
400/400 ————————————————————————————————	15	2ms/step	-	loss:	0.0234	-	val_loss:	0.0104
Epoch 99/1000 400/400 ————————————————————————————————	1 c	2ms/stan	_	1000	0 0196	_	val locc.	0 0110
Epoch 100/1000	13	211137 3 CCP		1033.	0.0150		va1_1033.	0.0110
•	1 s	2ms/step	_	loss:	0.0180	_	val_loss:	0.0104
Epoch 101/1000								
400/400 —————	1 s	2ms/step	-	loss:	0.0186	-	<pre>val_loss:</pre>	0.0108
Epoch 102/1000				_				
400/400 ————————————————————————————————	15	2ms/step	-	loss:	0.01/5	-	val_loss:	0.0115
400/400	1 c	1ms/sten	_	1055.	a a17a	_	val loss.	0 0107
Epoch 104/1000	13	тіііз/ з сер		1033.	0.0170		va1_1033.	0.0107
400/400 ————	1 s	1ms/step	_	loss:	0.0205	_	val_loss:	0.0114
Epoch 105/1000								
400/400 ————	1 s	1ms/step	-	loss:	0.0152	-	<pre>val_loss:</pre>	0.0112
Epoch 106/1000				_				
400/400 ———————————————————————————————————	15	1ms/step	-	loss:	0.0195	-	val_loss:	0.0118
400/400 ————————————————————————————————	1 c	1ms/sten	_	1055.	a a193	_	val loss.	0 0111
Epoch 108/1000	13	тіііз/ з сер		1033.	0.0105		va1_1033.	0.0111
400/400 ————	0s	1ms/step	_	loss:	0.0190	_	val_loss:	0.0107
Epoch 109/1000								
400/400 ————	1 s	1ms/step	-	loss:	0.0218	-	<pre>val_loss:</pre>	0.0111
Epoch 110/1000	^	4		1.	0 04 5=			0.0405
400/400 ————————————————————————————————	ØS	ıms/step	-	TOSS:	0.0167	-	var_ross:	0.0105
Epoch 111/1000 400/400 ————————————————————————————————	1 c	1ms/stan	_	1055.	0.0241	_	val loss.	0.0101
Epoch 112/1000		э, эсер		1033.	3.02-1			3.0101
400/400 —————	1 s	1ms/step	-	loss:	0.0196	-	val_loss:	0.0101

Enach 112/1000								
Epoch 113/1000 400/400 ————————————————————————————————	1¢	1ms/sten	_	1000	a a189	_	val loss.	0 0107
Epoch 114/1000	13	тшэ/ эсср		1033.	0.0103		va1_1033.	0.0107
400/400 ————	1 s	1ms/step	_	loss:	0.0193	_	val loss:	0.0107
Epoch 115/1000							_	
400/400	0s	1ms/step	-	loss:	0.0170	-	<pre>val_loss:</pre>	0.0099
Epoch 116/1000								
400/400	1 s	1ms/step	-	loss:	0.0198	-	<pre>val_loss:</pre>	0.0100
Epoch 117/1000				_				
400/400	1s	1ms/step	-	loss:	0.0197	-	val_loss:	0.0109
Epoch 118/1000 400/400 ————————————————————————————————	1.	1mc/c+on		10001	0 0200		val locce	0 0116
Epoch 119/1000	13	III3/3CEP	_	1033.	0.0208	_	va1_1033.	0.0110
400/400	1s	1ms/step	_	loss:	0.0170	_	val loss:	0.0117
Epoch 120/1000		-,					_	
400/400	1 s	1ms/step	-	loss:	0.0176	-	<pre>val_loss:</pre>	0.0106
Epoch 121/1000								
400/400	1 s	1ms/step	-	loss:	0.0183	-	val_loss:	0.0111
Epoch 122/1000	4 -	1		1	0.0100			0.0100
400/400 ———————————————————————————————————	15	ıms/step	-	TOSS:	0.0196	-	var_ross:	0.0109
400/400 —————	15	1ms/sten	_	loss:	0.0183	_	val loss:	0.0109
Epoch 124/1000		тэ, эсер		1055.	0.0103		·u1_1033.	0.0103
400/400	1 s	1ms/step	-	loss:	0.0200	-	val_loss:	0.0107
Epoch 125/1000								
	0s	1ms/step	-	loss:	0.0186	-	<pre>val_loss:</pre>	0.0112
Epoch 126/1000	_			_				
400/400 ————————————————————————————————	0s	1ms/step	-	loss:	0.0199	-	val_loss:	0.0115
Epoch 127/1000 400/400 ————————————————————————————————	۵c	1mc/cton	_	1000	0 0210	_	val locc.	0 0107
Epoch 128/1000	03	тіііз/ з сер		1033.	0.0210		va1_1033.	0.0107
-	0s	1ms/step	-	loss:	0.0214	_	val_loss:	0.0109
Epoch 129/1000								
400/400	0s	1ms/step	-	loss:	0.0177	-	<pre>val_loss:</pre>	0.0111
Epoch 130/1000	_							
400/400 ————————————————————————————————	0s	1ms/step	-	loss:	0.0230	-	val_loss:	0.0106
Epoch 131/1000 400/400 ————————————————————————————————	۵c	1ms/stan	_	1055.	a a220	_	val_loss:	0 0102
Epoch 132/1000	03	J/ 3 CEP		1000.	0.0229		· u = _ ± 0 3 3 .	3.0102
400/400 ————	0s	1ms/step	_	loss:	0.0191	_	val_loss:	0.0099
Epoch 133/1000		,					_	
400/400	0s	1ms/step	-	loss:	0.0214	-	<pre>val_loss:</pre>	0.0107
Epoch 134/1000	_							
400/400 ————————————————————————————————	0s	1ms/step	-	loss:	0.0184	-	val_loss:	0.0111
Epoch 135/1000 400/400 ————————————————————————————————	Q.	1mc/c+00	_	1000	0 0255	_	val locci	0 0111
Epoch 136/1000	02	ımə/əreb	-	TO22:	0.0233	-	AQT_T022;	0.0114
400/400	0s	1ms/step	_	loss:	0.0208	_	val loss:	0.0097
Epoch 137/1000	-	,r					_	
400/400	0s	1ms/step	-	loss:	0.0249	-	<pre>val_loss:</pre>	0.0104
Epoch 138/1000				_			_	
400/400	0s	1ms/step	-	loss:	0.0200	-	val_loss:	0.0104
Epoch 139/1000 400/400 ————————————————————————————————	00	1mc/c+on		locci	0 0101		val locci	0 0104
Epoch 140/1000	02	ıııs/steb	-	TO22:	0.0131	-	var_1022;	0.0104
400/400	0s	1ms/sten	_	loss:	0.0201	_	val loss:	0.0107
								,

Frach 141/1000	
Epoch 141/1000	- 1s 1ms/step - loss: 0.0181 - val_loss: 0.0101
Epoch 142/1000	13 1m3/3ccp 1033. 0.0101 Vai_1033. 0.0101
	<pre>- 0s 1ms/step - loss: 0.0167 - val_loss: 0.0105</pre>
Epoch 143/1000	
-	<pre>- 0s 1ms/step - loss: 0.0176 - val_loss: 0.0102</pre>
Epoch 144/1000	
400/400 ————	- 0s 1ms/step - loss: 0.0203 - val_loss: 0.0099
Epoch 145/1000	
	<pre>- 0s 1ms/step - loss: 0.0185 - val_loss: 0.0116</pre>
Epoch 146/1000	0-1/
400/400 ———————————————————————————————————	<pre>- 0s 1ms/step - loss: 0.0191 - val_loss: 0.0103</pre>
-	<pre>- 0s 1ms/step - loss: 0.0218 - val_loss: 0.0106</pre>
Epoch 148/1000	03 11113/312p - 1033. 0.0210 - Val_1033. 0.0100
•	<pre>- 0s 1ms/step - loss: 0.0214 - val_loss: 0.0096</pre>
Epoch 149/1000	_
400/400 —————	<pre>- 0s 1ms/step - loss: 0.0216 - val_loss: 0.0101</pre>
Epoch 150/1000	
	- 0s 1ms/step - loss: 0.0185 - val_loss: 0.0102
Epoch 151/1000	
	<pre>- 0s 1ms/step - loss: 0.0170 - val_loss: 0.0101</pre>
Epoch 152/1000 400/400 ————————————————————————————————	- 1s 1ms/step - loss: 0.0196 - val_loss: 0.0105
Epoch 153/1000	- 13 11115/Step - 1055. 0.0130 - Val_1055. 0.0103
	- 1s 1ms/step - loss: 0.0161 - val_loss: 0.0108
Epoch 154/1000	
400/400	- 1s 1ms/step - loss: 0.0220 - val_loss: 0.0107
Epoch 155/1000	
	- 1s 1ms/step - loss: 0.0231 - val_loss: 0.0097
Epoch 156/1000	
	- 1s 1ms/step - loss: 0.0241 - val_loss: 0.0098
Epoch 157/1000	- 1s 1ms/step - loss: 0.0179 - val_loss: 0.0117
Epoch 158/1000	13 1m3/3cep - 1033. 0.01/3 - vai_1033. 0.011/
	- 1s 1ms/step - loss: 0.0216 - val_loss: 0.0101
Epoch 159/1000	_
400/400	- 1s 1ms/step - loss: 0.0203 - val_loss: 0.0104
Epoch 160/1000	
	- 1s 1ms/step - loss: 0.0174 - val_loss: 0.0097
Epoch 161/1000	4.4 / 1 0 0404 1 1 0 0405
Epoch 162/1000	- 1s 1ms/step - loss: 0.0184 - val_loss: 0.0106
	- 1s 1ms/step - loss: 0.0167 - val_loss: 0.0101
Epoch 163/1000	13 1m3/3tcp 1033. 0.010/ vai_1033. 0.0101
	- 1s 1ms/step - loss: 0.0231 - val_loss: 0.0108
Epoch 164/1000	· –
400/400	- 1s 1ms/step - loss: 0.0191 - val_loss: 0.0103
Epoch 165/1000	
	<pre>- 1s 1ms/step - loss: 0.0175 - val_loss: 0.0102</pre>
Epoch 166/1000	4.4 / 1 0 0476 1 1 0 0407
400/400 ———————————————————————————————————	- 1s 1ms/step - loss: 0.0176 - val_loss: 0.0107
•	- 1s 1ms/step - loss: 0.0200 - val_loss: 0.0097
Epoch 168/1000	23 1m3/300p 1033. 0.0200 - Vai_1033. 0.003/
-	- 1s 1ms/step - loss: 0.0239 - val_loss: 0.0104
	,

Frank 160/1000								
Epoch 169/1000 400/400 ————————————————————————————————	1.	1mc/cton		1000	0 0101		val locc.	0 0107
Epoch 170/1000	13	III3/3cep	_	1055.	0.0101	_	va1_1055.	0.0107
•	1s	2ms/step	_	loss:	0.0202	_	val_loss:	0.0101
Epoch 171/1000		-,						
400/400	1 s	2ms/step	-	loss:	0.0207	-	val_loss:	0.0104
Epoch 172/1000								
	1 s	1ms/step	-	loss:	0.0170	-	<pre>val_loss:</pre>	0.0095
Epoch 173/1000								
	1 s	1ms/step	-	loss:	0.0166	-	val_loss:	0.0103
Epoch 174/1000	1.	2		1	0 0251			0.0100
400/400 ———————————————————————————————————	12	ziis/step	-	1055:	0.0251	-	val_loss:	0.0100
400/400	1 s	1ms/sten	_	loss:	0.0189	_	val loss:	0.0104
Epoch 176/1000		5, 5 00p			0.0202			
400/400	1 s	1ms/step	-	loss:	0.0196	_	val_loss:	0.0100
Epoch 177/1000								
400/400	1 s	1ms/step	-	loss:	0.0177	-	<pre>val_loss:</pre>	0.0106
Epoch 178/1000				_				
400/400 ————————————————————————————————	1s	1ms/step	-	loss:	0.0161	-	val_loss:	0.0107
Epoch 179/1000 400/400 ————————————————————————————————	1 c	1ms/sten	_	1000	a a215	_	val_loss:	a a1a3
Epoch 180/1000	13	тіііз/ эсер		1033.	0.0213		va1_1033.	0.0103
•	1 s	1ms/step	_	loss:	0.0177	_	val_loss:	0.0106
Epoch 181/1000								
400/400	1 s	2ms/step	-	loss:	0.0205	-	<pre>val_loss:</pre>	0.0103
Epoch 182/1000				_				
400/400	1 s	2ms/step	-	loss:	0.0178	-	val_loss:	0.0101
Epoch 183/1000 400/400 ————————————————————————————————	1 c	1mc/ctan	_	1000	a a191	_	val loss.	0 0108
Epoch 184/1000	13	тіііз/ эсср		1033.	0.0151		va1_1033.	0.0100
400/400 ————	1 s	1ms/step	_	loss:	0.0220	_	val_loss:	0.0101
Epoch 185/1000								
400/400	1 s	1ms/step	-	loss:	0.0224	-	val_loss:	0.0103
Epoch 186/1000				,	0.0100			0.0100
400/400 ———————————————————————————————————	15	1ms/step	-	loss:	0.0188	-	val_loss:	0.0102
•	1 c	1ms/sten	_	1000	a a212	_	val_loss:	a a1a5
Epoch 188/1000	13	тіііз/ эсср		1033.	0.0212		va1_1033.	0.0103
400/400	1 s	1ms/step	_	loss:	0.0187	_	val_loss:	0.0098
Epoch 189/1000								
400/400	1 s	1ms/step	-	loss:	0.0196	-	<pre>val_loss:</pre>	0.0098
Epoch 190/1000	_	4 / 1		,	0.0160			
400/400 ————————————————————————————————	15	1ms/step	-	loss:	0.0169	-	val_loss:	0.0097
Epoch 191/1000 400/400 ————————————————————————————————	1 c	1ms/sten	_	1000	a a171	_	val loss.	a aa96
Epoch 192/1000		тэ, эсср		1033.	0.0171		va1_1055.	0.0030
•	1 s	1ms/step	_	loss:	0.0173	_	val_loss:	0.0102
Epoch 193/1000								
400/400	1 s	1ms/step	-	loss:	0.0186	-	val_loss:	0.0102
Epoch 194/1000				,	0.0100			
400/400 ———————————————————————————————————	15	ıms/step	-	TOSS:	0.0198	-	val_loss:	0.0098
400/400 ———————	1 s	1ms/sten	_	1055.	0.0213	_	val loss.	0.0109
Epoch 196/1000		э, эсер			0.0210			0.0200
400/400	1 s	1ms/step	_	loss:	0.0167	-	val_loss:	0.0098

Frach 107/1000								
Epoch 197/1000 400/400 ————————————————————————————————	- 1c	1ms/sten	_	1055.	a a198	_	val loss.	0 0108
Epoch 198/1000	13	тіііз/ эсер		1033.	0.0100		va1_1033.	0.0100
400/400 ————	- 1s	1ms/step	_	loss:	0.0190	_	val loss:	0.0097
Epoch 199/1000							_	
400/400	- 1s	1ms/step	-	loss:	0.0200	-	<pre>val_loss:</pre>	0.0103
Epoch 200/1000								
	- 1s	1ms/step	-	loss:	0.0182	-	<pre>val_loss:</pre>	0.0097
Epoch 201/1000				_				
400/400 ————————————————————————————————	- 1s	1ms/step	-	loss:	0.0216	-	val_loss:	0.0099
Epoch 202/1000 400/400 ————————————————————————————————	_ 1c	1mc/c+on		10001	0 0201		val locci	0 0104
Epoch 203/1000	12	Illis/scep	_	1055.	0.0201	-	va1_1055.	0.0104
400/400 ————	- 15	1ms/sten	_	loss:	0.0181	_	val loss:	0.0109
Epoch 204/1000		, 5 ccp			0.0202			0.0202
400/400 ————	- 1s	1ms/step	-	loss:	0.0151	-	val_loss:	0.0099
Epoch 205/1000								
400/400	- 1s	1ms/step	-	loss:	0.0178	-	<pre>val_loss:</pre>	0.0101
Epoch 206/1000				_			_	
400/400	- 1s	1ms/step	-	loss:	0.0197	-	val_loss:	0.0103
Epoch 207/1000 400/400 ————————————————————————————————	1.0	1mc/stop		10001	0.0160		val lassi	0 0105
Epoch 208/1000	12	Ims/scep	-	1055:	0.0109	-	va1_1055:	0.0105
•	- 15	1ms/sten	_	loss:	0.0194	_	val_loss:	0.0097
Epoch 209/1000		23, 3 ccp		1055.	0.013		·u1_1055.	0.0037
400/400 ————	- 1s	1ms/step	_	loss:	0.0188	_	val_loss:	0.0098
Epoch 210/1000		·					_	
400/400	- 1s	1ms/step	-	loss:	0.0194	-	<pre>val_loss:</pre>	0.0102
Epoch 211/1000								
400/400	- 1s	2ms/step	-	loss:	0.0219	-	val_loss:	0.0104
Epoch 212/1000 400/400 ————————————————————————————————	1.0	1mc/stop		10001	0 0107		val lassi	0 0101
Epoch 213/1000	12	Ims/scep	-	1055:	0.0187	-	va1_1055:	0.0101
400/400 ————	- 1s	2ms/sten	_	loss:	0.0178	_	val loss:	0.0109
Epoch 214/1000		, 5 ccp			0,02,0			0.0202
400/400	- 1s	2ms/step	-	loss:	0.0174	-	val_loss:	0.0101
Epoch 215/1000								
	- 1s	2ms/step	-	loss:	0.0158	-	<pre>val_loss:</pre>	0.0104
Epoch 216/1000				_				
400/400	- 1s	2ms/step	-	loss:	0.0183	-	val_loss:	0.0101
Epoch 217/1000 400/400 ————————————————————————————————	_ 1c	2mc/s+on		10001	0 0100		val locci	0 0102
Epoch 218/1000	13	ziiis/step	_	1055.	0.0190	_	va1_1055.	0.0102
400/400 ————	- 1s	1ms/step	_	loss:	0.0192	_	val loss:	0.0103
Epoch 219/1000								
400/400	- 1s	1ms/step	-	loss:	0.0202	-	val_loss:	0.0106
Epoch 220/1000								
	- 1s	2ms/step	-	loss:	0.0182	-	<pre>val_loss:</pre>	0.0099
Epoch 221/1000				_				
400/400 ————————————————————————————————	- 1s	ıms/step	-	TOSS:	0.0194	-	var_ross:	0.0103
Epoch 222/1000 400/400 ————————————————————————————————	1.0	1mc/c+05		1000	0 0162		val locc:	0 0122
Epoch 223/1000	Τ2	ımə/əteb	-	1022;	0.0102	-	AaT_T022;	0.0177
400/400	- 1s	2ms/sten	_	loss:	0.0193	_	val loss:	0.0103
Epoch 224/1000		, этор						,
400/400 ————	- 1s	1ms/step	-	loss:	0.0206	-	val_loss:	0.0099

Fno.ch 225/1000								
Epoch 225/1000 400/400 ————————————————————————————————	– 0s	1ms/sten	_	1055.	a a211	_	val loss.	0 0116
Epoch 226/1000	03	тіііз/ з сер		1033.	0.0211		va1_1033.	0.0110
400/400 ————	– 0s	1ms/step	_	loss:	0.0212	_	val loss:	0.0107
Epoch 227/1000							_	
400/400	– 0s	1ms/step	-	loss:	0.0180	-	val_loss:	0.0102
Epoch 228/1000								
	– 0s	1ms/step	-	loss:	0.0178	-	<pre>val_loss:</pre>	0.0109
Epoch 229/1000	_			_				
	– 0s	1ms/step	-	loss:	0.0172	-	val_loss:	0.0110
Epoch 230/1000 400/400 ————————————————————————————————	- 00	1mc/c+on		10001	0 0202		val_loss:	0 0000
Epoch 231/1000	03	Illis/scep	-	1055.	0.0202	_	va1_1055.	0.0036
400/400	– 0s	1ms/step	_	loss:	0.0183	_	val loss:	0.0104
Epoch 232/1000								
400/400	- 1s	1ms/step	-	loss:	0.0205	_	val_loss:	0.0102
Epoch 233/1000								
400/400	- 1s	1ms/step	-	loss:	0.0184	-	<pre>val_loss:</pre>	0.0112
Epoch 234/1000				_	_			_
400/400	– 0s	1ms/step	-	loss:	0.0153	-	val_loss:	0.0100
Epoch 235/1000 400/400 ————————————————————————————————	_ 1_	1mc/cton		10001	0 0201		val lassi	0 0104
Epoch 236/1000	_ 15	Illis/scep	-	1055.	0.0201	-	va1_1055.	0.0104
•	- 1s	1ms/sten	_	loss:	0.0196	_	val_loss:	0.0102
Epoch 237/1000								
400/400	- 1s	1ms/step	-	loss:	0.0188	-	val_loss:	0.0098
Epoch 238/1000								
400/400	- 1s	1ms/step	-	loss:	0.0202	-	<pre>val_loss:</pre>	0.0109
Epoch 239/1000				_				
400/400	– 1s	1ms/step	-	loss:	0.0223	-	val_loss:	0.0101
Epoch 240/1000 400/400 ————————————————————————————————	_ 1c	1mc/cton		1000	0 0200		val locc:	0 0102
Epoch 241/1000	_ 13	Illis/scep	-	1055.	0.0200	_	va1_1055.	0.0103
400/400 ————	– 1s	1ms/step	_	loss:	0.0168	_	val loss:	0.0108
Epoch 242/1000		-,					_	
400/400	- 1s	1ms/step	-	loss:	0.0181	-	<pre>val_loss:</pre>	0.0099
Epoch 243/1000								
400/400	– 1s	1ms/step	-	loss:	0.0211	-	<pre>val_loss:</pre>	0.0107
Epoch 244/1000	_			_				
400/400 ————————————————————————————————	– 1s	1ms/step	-	loss:	0.01/0	-	val_loss:	0.010/
Epoch 245/1000 400/400 ————————————————————————————————	- 0c	1mc/stan	_	1000	0 0225	_	val locc.	0 0101
Epoch 246/1000	03	III3/3Cep	_	1033.	0.0223	_	va1_1033.	0.0101
400/400 ————	– 0s	1ms/step	_	loss:	0.0167	_	val loss:	0.0105
Epoch 247/1000							_	
400/400 ————	– 0s	1ms/step	-	loss:	0.0171	-	<pre>val_loss:</pre>	0.0103
Epoch 248/1000								
	- 1s	1ms/step	-	loss:	0.0178	-	<pre>val_loss:</pre>	0.0102
Epoch 249/1000		4 / 1		,				0.0100
400/400 ————————————————————————————————	– 1s	1ms/step	-	loss:	0.0225	-	var_ross:	0.0102
Epoch 250/1000 400/400 ————————————————————————————————	– 1c	1mc/stan	_	1000	a a2a9	_	val locc.	0 0005
Epoch 251/1000	13	-m3/3cep	_	1033.	3.0209	_	va1_1033.	3.0073
400/400	– 1s	1ms/step	_	loss:	0.0195	_	val loss:	0.0098
Epoch 252/1000		·					_	
400/400 ————	- 1s	1ms/step	-	loss:	0.0206	-	<pre>val_loss:</pre>	0.0102

Fnoch 252/1000								
Epoch 253/1000 400/400 ————————————————————————————————	1 c	1ms/sten	_	1055.	a a211	_	val loss.	0 0097
Epoch 254/1000	13	тшэ/ эсср		1033.	0.0211		va1_1033.	0.0057
400/400	1 s	1ms/step	-	loss:	0.0156	_	val_loss:	0.0105
Epoch 255/1000								
400/400	0s	1ms/step	-	loss:	0.0192	-	<pre>val_loss:</pre>	0.0112
Epoch 256/1000	_							
400/400 ———————————————————————————————————	0s	1ms/step	-	loss:	0.0185	-	val_loss:	0.0102
•	15	1ms/sten	_	loss:	0.0204	_	val_loss:	0.0103
Epoch 258/1000		тэ, эсср		1055.	0.020		·u033.	0.0103
-	1 s	1ms/step	-	loss:	0.0171	-	val_loss:	0.0103
Epoch 259/1000								
400/400	1 s	1ms/step	-	loss:	0.0188	-	val_loss:	0.0098
Epoch 260/1000 400/400 ————————————————————————————————	00	1mc/c+on		10001	0 0172		val locci	0 0112
Epoch 261/1000	05	IIIS/Step	-	1055.	0.01/2	-	va1_1055.	0.0113
400/400 ————	0s	1ms/step	_	loss:	0.0192	_	val loss:	0.0097
Epoch 262/1000								
400/400	0s	1ms/step	-	loss:	0.0151	-	<pre>val_loss:</pre>	0.0096
Epoch 263/1000	4.	4 / 1		,	0 0105			0.0405
400/400 ———————————————————————————————————	15	1ms/step	-	Toss:	0.0185	-	var_ross:	0.0105
-	0s	1ms/step	_	loss:	0.0198	_	val_loss:	0.0097
Epoch 265/1000		, с сор						
400/400 ————	1 s	1ms/step	-	loss:	0.0189	-	<pre>val_loss:</pre>	0.0104
Epoch 266/1000								
400/400	0s	1ms/step	-	loss:	0.0193	-	val_loss:	0.0103
Epoch 267/1000 400/400 ————————————————————————————————	1 c	1mc/cton	_	1000	0 01/0	_	val loss:	0 0113
Epoch 268/1000	13	тіііз/ з сер		1033.	0.0145		vai_1033.	0.0113
400/400 ————	1 s	1ms/step	-	loss:	0.0190	-	val_loss:	0.0097
Epoch 269/1000								
400/400	1 s	1ms/step	-	loss:	0.0172	-	val_loss:	0.0105
Epoch 270/1000 400/400 ————————————————————————————————	1.0	1mc/c+on		10001	0 0170		val lassi	0 0100
Epoch 271/1000	12	IIIS/Step	-	1055.	0.0170	-	va1_1055.	0.0100
400/400 ————	1s	1ms/step	_	loss:	0.0187	_	val loss:	0.0101
Epoch 272/1000							_	
400/400	1 s	1ms/step	-	loss:	0.0193	-	<pre>val_loss:</pre>	0.0100
Epoch 273/1000		4 ()		,	0.0100			0.0101
400/400 ———————————————————————————————————	US	1ms/step	-	Toss:	0.0188	-	var_ross:	0.0104
400/400	05	1ms/sten	_	loss:	0.0173	_	val loss:	0.0115
Epoch 275/1000		, с сор						
400/400 ————	0s	1ms/step	-	loss:	0.0241	-	<pre>val_loss:</pre>	0.0106
Epoch 276/1000								
	1 s	1ms/step	-	loss:	0.0205	-	val_loss:	0.0104
Epoch 277/1000 400/400 ————————————————————————————————	1 c	1ms/stan	_	1055.	a a196	_	val loss.	0 0000
Epoch 278/1000		-m3/3cep	_	1033.	3.0150	-	·u1_1033.	0.0000
400/400 ————	1 s	1ms/step	-	loss:	0.0151	-	val_loss:	0.0108
Epoch 279/1000								
400/400	1 s	1ms/step	-	loss:	0.0194	-	val_loss:	0.0104
Epoch 280/1000	1.	1mc/c+00		1000	ດ ດວວວ		val locc:	0 0006
400/400	TS	TIIIS/Step	-	TOSS:	0.0222	-	va1_1055:	טפטט.ט

Enoch 291/1000								
Epoch 281/1000 400/400 ————————————————————————————————	- 0c	1ms/sten	_	1055.	0 0163	_	val loss.	0 0108
Epoch 282/1000	03	тіііз/ З сер		1033.	0.0103		va1_1033.	0.0100
•	- 1s	1ms/step	_	loss:	0.0195	_	val_loss:	0.0102
Epoch 283/1000							_	
400/400	- 1s	1ms/step	-	loss:	0.0184	-	val_loss:	0.0100
Epoch 284/1000								
	- 0s	1ms/step	-	loss:	0.0168	-	<pre>val_loss:</pre>	0.0104
Epoch 285/1000				_				
	- 1s	1ms/step	-	loss:	0.0206	-	val_loss:	0.0102
Epoch 286/1000 400/400 ————————————————————————————————	_ 1c	1mc/c+on		10001	0 0210		val_loss:	0 0100
Epoch 287/1000	13	Illis/step	-	1055.	0.0210	-	va1_1055.	0.0100
400/400	– 1s	1ms/step	_	loss:	0.0208	_	val loss:	0.0098
Epoch 288/1000		-,						
400/400 —————	- 0s	1ms/step	-	loss:	0.0223	-	val_loss:	0.0097
Epoch 289/1000								
400/400	– 0s	1ms/step	-	loss:	0.0194	-	val_loss:	0.0116
Epoch 290/1000	0 -	4 / 1		,	0 0040			0.0100
400/400 ———————————————————————————————————	– 05	ıms/step	-	1055:	0.0219	-	val_loss:	0.0100
-	- 0s	1ms/sten	_	loss:	0.0184	_	val_loss:	0.0106
Epoch 292/1000		5, 5 ccp			0.020.			0.0200
•	- 1s	1ms/step	-	loss:	0.0175	-	val_loss:	0.0107
Epoch 293/1000								
400/400	– 0s	1ms/step	-	loss:	0.0163	-	val_loss:	0.0103
Epoch 294/1000	4 -	4 / 1		,	0 0476			0.0100
400/400 ———————————————————————————————————	- 1s	1ms/step	-	loss:	0.01/6	-	val_loss:	0.0102
400/400	- 0s	1ms/sten	_	loss:	0.0198	_	val loss:	0.0104
Epoch 296/1000		э, э сер			010220			
400/400 —————	- 0s	1ms/step	-	loss:	0.0189	-	val_loss:	0.0111
Epoch 297/1000								
400/400	– 0s	1ms/step	-	loss:	0.0207	-	val_loss:	0.0098
Epoch 298/1000 400/400 ———————————————————————————————————	_ 1.	1ms/s+on		10001	0 0100		val lacce	0 0105
Epoch 299/1000	12	Ims/step	-	1055:	0.0180	-	va1_1055;	0.0105
•	- 1s	1ms/step	_	loss:	0.0180	_	val loss:	0.0103
Epoch 300/1000		,						
400/400 —————	- 1s	1ms/step	-	loss:	0.0193	-	val_loss:	0.0102
Epoch 301/1000								
400/400	- 1s	1ms/step	-	loss:	0.0186	-	val_loss:	0.0095
Epoch 302/1000	1.	1 / - +		1	0.0100		1	0 0103
400/400 ———————————————————————————————————	- 15	ims/step	-	1055:	0.0190	-	va1_1055:	0.0103
400/400	- 1s	1ms/sten	_	loss:	0.0152	_	val loss:	0.0108
Epoch 304/1000		,						
400/400 —————	- 1s	1ms/step	-	loss:	0.0209	-	val_loss:	0.0105
Epoch 305/1000								
400/400	- 1s	1ms/step	-	loss:	0.0167	-	val_loss:	0.0102
Epoch 306/1000 400/400 ————————————————————————————————	_ 1-	1mc/c+a=		1000	0 0100		val less:	0 0000
Epoch 307/1000	_ 18	Tills/2reb	-	1022:	פנדט.ט	-	vaT_1022;	פפטט.ט
400/400	- 1s	1ms/step	_	loss:	0.0188	_	val loss:	0.0096
Epoch 308/1000	_	,		- •				
400/400 ————	- 1s	1ms/step	-	loss:	0.0190	-	<pre>val_loss:</pre>	0.0103

Enoch 200/1000								
Epoch 309/1000 400/400 ————————————————————————————————	– 1c	1mc/stan	_	1000	a a22a	_	val locc.	0 0006
Epoch 310/1000	13	тіііз/ з сер		1033.	0.0220		vai_1033.	0.0000
400/400 ————	- 1s	1ms/sten	_	loss:	0.0224	_	val loss:	0.0098
Epoch 311/1000		, 5 ccp						
400/400	- 1s	1ms/step	-	loss:	0.0220	-	val_loss:	0.0103
Epoch 312/1000								
400/400	- 1s	1ms/step	-	loss:	0.0239	-	<pre>val_loss:</pre>	0.0110
Epoch 313/1000								
400/400	- 1s	1ms/step	-	loss:	0.0210	-	val_loss:	0.0103
Epoch 314/1000	0 -	4 ()		,	0 0474			0 0400
400/400 ————————————————————————————————	– 0s	1ms/step	-	loss:	0.01/1	-	var_ross:	0.0102
Epoch 315/1000 400/400 ————————————————————————————————	- 0c	1mc/stan	_	1000	0 0183	_	val locc.	0 0106
Epoch 316/1000	03	Illis/scep	_	1033.	0.0103	_	va1_1033.	0.0100
400/400 ————	- 1s	1ms/step	_	loss:	0.0205	_	val loss:	0.0105
Epoch 317/1000		-,					_	
400/400 ————	- 1s	1ms/step	-	loss:	0.0233	-	val_loss:	0.0103
Epoch 318/1000								
400/400	- 1s	1ms/step	-	loss:	0.0195	-	<pre>val_loss:</pre>	0.0103
Epoch 319/1000	_			,				
400/400	- 1s	1ms/step	-	loss:	0.0168	-	val_loss:	0.0096
Epoch 320/1000 400/400 ————————————————————————————————	- 0c	1mc/cton		1000	0 0104		val_loss:	0 0102
Epoch 321/1000	05	Illis/scep	_	1055.	0.0194	-	va1_1055.	0.0102
400/400 ————	- 1s	1ms/step	_	loss:	0.0185	_	val loss:	0.0105
Epoch 322/1000								
400/400	- 1s	1ms/step	-	loss:	0.0187	-	val_loss:	0.0101
Epoch 323/1000								
400/400	– 0s	1ms/step	-	loss:	0.0208	-	<pre>val_loss:</pre>	0.0109
Epoch 324/1000								
400/400 ————————————————————————————————	- 1s	1ms/step	-	loss:	0.0220	-	val_loss:	0.0104
Epoch 325/1000 400/400 ————————————————————————————————	– 1c	1mc/stan	_	1000	0 0230	_	val locc.	a a1a2
Epoch 326/1000	13	тіііз/ з сер		1033.	0.0230		va1_1033.	0.0102
400/400 ————	- 1s	1ms/step	_	loss:	0.0219	_	val loss:	0.0106
Epoch 327/1000		, ,					_	
400/400	- 1s	1ms/step	-	loss:	0.0184	-	<pre>val_loss:</pre>	0.0100
Epoch 328/1000								
400/400	- 0s	1ms/step	-	loss:	0.0196	-	val_loss:	0.0097
Epoch 329/1000	4 -	1 m = / = 1		1	0.010=			0.0100
400/400 ————————————————————————————————	- 1s	ıms/step	-	TOSS:	0.0187	-	var_ross:	0.0102
Epoch 330/1000 400/400 ————————————————————————————————	– 1¢	1ms/stan	_	1055.	0.0197	_	val loss.	0.0099
Epoch 331/1000	-3	±3/ 3 τερ		1000.	0.017/		·u1033.	3.0055
400/400 ————	- 1s	1ms/step	_	loss:	0.0158	_	val_loss:	0.0102
Epoch 332/1000		·					_	
400/400 ————	- 1s	1ms/step	-	loss:	0.0169	-	<pre>val_loss:</pre>	0.0104
Epoch 333/1000								
400/400	- 1s	1ms/step	-	loss:	0.0186	-	val_loss:	0.0109
Epoch 334/1000	_	4 / :		,	0.0170			0.011:
400/400 ————————————————————————————————	- 1s	ıms/step	-	TOSS:	0.0179	-	var_ross:	0.0114
Epoch 335/1000 400/400 ————————————————————————————————	– 1c	1mc/ctan	_	1000	a a102	_	val locci	9 9999
Epoch 336/1000	13	11113/3 CEb	_	1033.	0.0132	-	Λατ ⁻ τ022.	0.0055
400/400	- 1s	1ms/sten	_	loss:	0.0183	_	val loss:	0.0105
/ - 		, ссер						

Frach 227/1000								
Epoch 337/1000 400/400 ————————————————————————————————	_ 1c	1mc/cton	_	1000	0 0207	_	val locc.	0 0101
Epoch 338/1000	13	Illis/scep	_	1033.	0.0207	_	va1_1033.	0.0101
400/400 ————	- 1s	1ms/step	_	loss:	0.0184	_	val loss:	0.0099
Epoch 339/1000		-,					_	
400/400	- 0s	1ms/step	-	loss:	0.0174	-	val_loss:	0.0101
Epoch 340/1000								
	- 1s	1ms/step	-	loss:	0.0190	-	<pre>val_loss:</pre>	0.0098
Epoch 341/1000								
400/400	- 1s	1ms/step	-	loss:	0.0171	-	val_loss:	0.0119
Epoch 342/1000	4.	1		1	0.0160			0 0100
400/400 ———————————————————————————————————	- 15	ıms/step	-	1055:	0.0169	-	vai_ioss:	0.0100
400/400	– 1c	1ms/sten	_	1055.	a a21a	_	val loss.	a a1a4
Epoch 344/1000		тіііз/ з сер		1033.	0.0210		va1_1033.	0.0104
400/400 ————	- 1s	1ms/step	_	loss:	0.0187	_	val loss:	0.0100
Epoch 345/1000							_	
400/400	- 1s	1ms/step	-	loss:	0.0187	-	<pre>val_loss:</pre>	0.0102
Epoch 346/1000								
400/400	- 1s	1ms/step	-	loss:	0.0194	-	<pre>val_loss:</pre>	0.0094
Epoch 347/1000				_				
400/400 ————————————————————————————————	- 1s	1ms/step	-	loss:	0.01/6	-	val_loss:	0.0104
Epoch 348/1000 400/400 ————————————————————————————————	- 1c	1mc/cton	_	1000	0 0220	_	val_loss:	0 0103
Epoch 349/1000	_ 13	Illis/step	-	1055.	0.0220	_	va1_1055.	0.0103
400/400 ————	- 1s	1ms/step	_	loss:	0.0189	_	val loss:	0.0102
Epoch 350/1000		,						
400/400	- 1s	1ms/step	-	loss:	0.0195	-	val_loss:	0.0098
Epoch 351/1000								
400/400	– 0s	1ms/step	-	loss:	0.0214	-	<pre>val_loss:</pre>	0.0109
Epoch 352/1000		4 / 1		,	0 004=			0.0446
400/400 ————————————————————————————————	- 1s	1ms/step	-	loss:	0.021/	-	val_loss:	0.0116
Epoch 353/1000 400/400 ———————————————————————————————————	- 0c	1mc/ctan	_	1000	0 0166	_	val locc.	a aa97
Epoch 354/1000	03	тіііз/ з сер		1033.	0.0100		va1_1033.	0.0057
400/400 ————	– 0s	1ms/step	_	loss:	0.0206	_	val loss:	0.0103
Epoch 355/1000							_	
400/400 —————	– 0s	1ms/step	-	loss:	0.0181	-	<pre>val_loss:</pre>	0.0110
Epoch 356/1000								
400/400	- 0s	1ms/step	-	loss:	0.0227	-	val_loss:	0.0096
Epoch 357/1000	4 -	4 / 1		,	0.0100			0.0403
400/400 ———————————————————————————————————	- 15	ıms/step	-	TOSS:	0.0189	-	var_ross:	0.0103
400/400	– 1c	1ms/sten	_	1055.	a a18a	_	val loss.	0 0105
Epoch 359/1000		тіііз/ з сер		1033.	0.0100		va1_1033.	0.0103
400/400 ————	- 1s	1ms/step	_	loss:	0.0202	_	val loss:	0.0107
Epoch 360/1000							_	
400/400 —————	- 1s	1ms/step	-	loss:	0.0180	-	<pre>val_loss:</pre>	0.0101
Epoch 361/1000								
400/400	- 1s	1ms/step	-	loss:	0.0209	-	val_loss:	0.0102
Epoch 362/1000	_			,	0.01=5			0.010=
400/400 ————————————————————————————————	- 1s	ıms/step	-	TOSS:	0.0178	-	var_ross:	0.0107
Epoch 363/1000 400/400 ————————————————————————————————	- 1c	1mc/ctan	_	1000	a a212	_	val locci	0 0100
Epoch 364/1000	12	ımə/əteb	-	1022;	0.0213	-	AQT_T022;	0.0100
400/400	- 1s	1ms/sten	_	loss:	0.0168	_	val loss:	0.0103
, ·••		, эсер			5.5200			3.0203

Frank 265 /1000								
Epoch 365/1000 400/400 ————————————————————————————————	1.	1mc/cton		10551	0 0105		val locc:	0 0102
Epoch 366/1000	13	Illis/scep	_	1055.	0.0103	_	va1_1055.	0.0103
400/400 —————	- 15	1ms/sten	_	loss	a a197	_	val loss.	0 0104
Epoch 367/1000		13, 3 ccp		1033.	0.0137		·u1_1055.	0.010.
400/400	- 1s	1ms/step	_	loss:	0.0186	_	val loss:	0.0100
Epoch 368/1000							_	
400/400 —————	1 s	1ms/step	-	loss:	0.0192	-	<pre>val_loss:</pre>	0.0100
Epoch 369/1000								
400/400	1 s	1ms/step	-	loss:	0.0257	-	<pre>val_loss:</pre>	0.0099
Epoch 370/1000				-				
400/400	1 S	1ms/step	-	loss:	0.0166	-	val_loss:	0.0107
Epoch 371/1000 400/400 ————————————————————————————————	1.	1mc/cton		1000	0 0156		val locc:	0 0107
Epoch 372/1000	13	Illis/scep	_	1055.	0.0130	_	va1_1055.	0.0107
400/400 —————	- 1s	1ms/step	_	loss:	0.0188	_	val loss:	0.0104
Epoch 373/1000								
400/400	1 s	1ms/step	-	loss:	0.0157	-	val_loss:	0.0103
Epoch 374/1000								
400/400	1 s	1ms/step	-	loss:	0.0183	-	<pre>val_loss:</pre>	0.0109
Epoch 375/1000				_				
400/400	- 1s	1ms/step	-	loss:	0.0173	-	val_loss:	0.0103
Epoch 376/1000 400/400 ————————————————————————————————	1.0	1mc/c+on		10001	0 0200		val_loss:	0 0107
Epoch 377/1000	13	Illis/scep	_	1055.	0.0208	_	va1_1055.	0.0107
400/400 ————	- 1s	1ms/step	_	loss:	0.0173	_	val loss:	0.0099
Epoch 378/1000		-,					_	
400/400 —————	0 s	1ms/step	-	loss:	0.0171	-	<pre>val_loss:</pre>	0.0106
Epoch 379/1000								
400/400	0 s	1ms/step	-	loss:	0.0213	-	val_loss:	0.0108
Epoch 380/1000	_	4 / 1		,				
400/400 ————————————————————————————————	- 0s	1ms/step	-	loss:	0.0204	-	val_loss:	0.0101
Epoch 381/1000 400/400 ————————————————————————————————	1 c	1mc/stan	_	1000	0 0213	_	val loss.	a a1aa
Epoch 382/1000	13	тіііз/ з сер		1033.	0.0213		va1_1033.	0.0100
400/400 ————	- 1s	1ms/step	_	loss:	0.0178	_	val loss:	0.0106
Epoch 383/1000		·					_	
400/400	1 s	1ms/step	-	loss:	0.0173	-	<pre>val_loss:</pre>	0.0105
Epoch 384/1000								
400/400	- 1s	1ms/step	-	loss:	0.0178	-	val_loss:	0.0104
Epoch 385/1000	1.	1		1	0.0103			0 0116
400/400 ———————————————————————————————————	12	Ims/scep	-	1055:	0.0193	-	va1_1055:	0.0116
400/400 —————	- 15	2ms/sten	_	loss:	0.0200	_	val loss:	0.0103
Epoch 387/1000	_3	э, эсср		_555.	0.0200			2.0203
400/400 —————	1 s	1ms/step	-	loss:	0.0165	-	val_loss:	0.0104
Epoch 388/1000								
400/400	1 s	1ms/step	-	loss:	0.0193	-	<pre>val_loss:</pre>	0.0103
Epoch 389/1000				_				
400/400	1 s	1ms/step	-	loss:	0.0241	-	val_loss:	0.0103
Epoch 390/1000	. 1-	1mc/c+==		1000	0 0226		val lass:	0 0100
400/400 ———————————————————————————————————	- 12	TIIIS/STep	-	1022:	w.w236	-	vaT_1022:	A.0103
400/400	- 15	1ms/sten	_	1055.	0.0163	_	val loss.	0.0105
Epoch 392/1000	-3	э, эсср		1033.	3.0103		. 41_1055.	3.0103
400/400 ————	1 s	1ms/step	-	loss:	0.0200	-	val_loss:	0.0108
		·					_	

Fnoch 202/1000								
Epoch 393/1000 400/400 ————————————————————————————————	- 1s	1ms/sten	_	loss:	0.0171	_	val loss:	0.0108
Epoch 394/1000		тэ, эсср		1055.	0.0171		·u1_1055.	0.0100
400/400	- 1s	1ms/step	-	loss:	0.0196	-	<pre>val_loss:</pre>	0.0099
Epoch 395/1000								
400/400	- 1s	1ms/step	-	loss:	0.0188	-	<pre>val_loss:</pre>	0.0106
Epoch 396/1000	_	4 / 1		,	0.0100			0 0111
400/400 ———————————————————————————————————	- 1s	1ms/step	-	loss:	0.0192	-	val_loss:	0.0111
400/400	- 1s	1ms/sten	_	loss:	0.0184	_	val loss:	0.0107
Epoch 398/1000		тэ, эсср		1055.	0.010.		·u1_1055.	0.0107
400/400 ————	- 1s	1ms/step	-	loss:	0.0194	-	val_loss:	0.0103
Epoch 399/1000								
400/400	- 1s	1ms/step	-	loss:	0.0170	-	val_loss:	0.0103
Epoch 400/1000 400/400 ————————————————————————————————	_ 1.	1ms /s+on		10001	0 0212		val lassi	0 0102
Epoch 401/1000	12	ıms/scep	-	1055:	0.0212	-	va1_1055:	0.0103
400/400 —————	– 1s	1ms/step	_	loss:	0.0179	_	val loss:	0.0107
Epoch 402/1000								
400/400	- 1s	1ms/step	-	loss:	0.0184	-	<pre>val_loss:</pre>	0.0098
Epoch 403/1000				_				
400/400 ————————————————————————————————	- 1s	1ms/step	-	loss:	0.0174	-	val_loss:	0.0104
Epoch 404/1000 400/400 ————————————————————————————————	– 1s	1ms/sten	_	loss.	0 0189	_	val_loss:	0 0100
Epoch 405/1000		тэ, эсср		1033.	0.0103		va1_1055.	0.0100
400/400 ————	- 1s	1ms/step	-	loss:	0.0195	-	val_loss:	0.0101
Epoch 406/1000								
400/400	- 1s	1ms/step	-	loss:	0.0188	-	val_loss:	0.0104
Epoch 407/1000 400/400 ————————————————————————————————	_ 1.	1mc/c+on		10001	0 0217		val lassi	0 0102
Epoch 408/1000	12	ıms/scep	-	1055:	0.0217	-	va1_1055;	0.0103
400/400 ————	- 1s	1ms/step	_	loss:	0.0175	_	val loss:	0.0101
Epoch 409/1000								
400/400	- 1s	1ms/step	-	loss:	0.0171	-	<pre>val_loss:</pre>	0.0111
Epoch 410/1000				,	0 0010			0.0404
400/400 ———————————————————————————————————	– 0s	1ms/step	-	loss:	0.0210	-	val_loss:	0.0104
400/400	- 1s	1ms/sten	_	loss:	0.0219	_	val loss:	0.0110
Epoch 412/1000		, 5 ccp			0.07			0100
400/400 ————	- 1s	1ms/step	-	loss:	0.0173	-	<pre>val_loss:</pre>	0.0105
Epoch 413/1000								
400/400 ————————————————————————————————	- 1s	1ms/step	-	loss:	0.0187	-	val_loss:	0.0103
Epoch 414/1000 400/400 ————————————————————————————————	_ 1c	1mc/cton		1000	0 01/5		val locc:	0 0112
Epoch 415/1000	13	Illis/scep	_	1055.	0.0143	_	va1_1055.	0.0112
400/400 ————	- 1s	1ms/step	_	loss:	0.0193	_	val loss:	0.0109
Epoch 416/1000							_	
400/400 ————	– 0s	1ms/step	-	loss:	0.0195	-	<pre>val_loss:</pre>	0.0104
Epoch 417/1000								
400/400 ————————————————————————————————	- 1s	1ms/step	-	loss:	0.0196	-	var_loss:	0.0102
Epoch 418/1000 400/400 ————————————————————————————————	– 0c	1ms/sten	_	1055.	0.0163	_	val loss.	0.0118
Epoch 419/1000	03	тэ, эсср		1000.	0.0103			0.0110
400/400 ————	- 0s	1ms/step	-	loss:	0.0189	-	val_loss:	0.0106
Epoch 420/1000								
400/400 ————	- 1s	1ms/step	-	loss:	0.0183	-	val_loss:	0.0106

Frank 424 /4000								
Epoch 421/1000 400/400 ————————————————————————————————	1 c	1mc/cton		1000	0 0177	_	val locc:	0 0117
Epoch 422/1000	13	III3/3Cep	_	1033.	0.01//	_	va1_1033.	0.0117
•	0s	1ms/step	_	loss:	0.0180	_	val_loss:	0.0108
Epoch 423/1000		-,						
400/400	1 s	1ms/step	-	loss:	0.0170	-	val_loss:	0.0126
Epoch 424/1000								
	1 s	1ms/step	-	loss:	0.0188	-	<pre>val_loss:</pre>	0.0113
Epoch 425/1000								
	1 s	1ms/step	-	loss:	0.0164	-	val_loss:	0.0125
Epoch 426/1000	1.	1		1	0 0212			0 0105
400/400 ———————————————————————————————————	12	ıms/step	-	1055:	0.0212	-	val_loss:	0.0105
400/400	15	1ms/sten	_	loss:	0.0191	_	val loss:	0.0108
Epoch 428/1000		5, 5 ccp			0,0			0.0200
400/400	1 s	1ms/step	-	loss:	0.0182	_	val_loss:	0.0102
Epoch 429/1000								
400/400	1 s	1ms/step	-	loss:	0.0194	-	<pre>val_loss:</pre>	0.0105
Epoch 430/1000				_				
400/400 ————————————————————————————————	1s	1ms/step	-	loss:	0.0181	-	val_loss:	0.0106
Epoch 431/1000 400/400 ————————————————————————————————	۵c	1ms/sten	_	1055.	0 0188	_	val_loss:	a a1a5
Epoch 432/1000	03	тіііз/ з сер		1033.	0.0100		va1_1033.	0.0103
•	0s	1ms/step	_	loss:	0.0214	_	val_loss:	0.0106
Epoch 433/1000								
400/400	0s	1ms/step	-	loss:	0.0193	-	<pre>val_loss:</pre>	0.0115
Epoch 434/1000				_				
400/400	1s	1ms/step	-	loss:	0.0190	-	val_loss:	0.0103
Epoch 435/1000 400/400 ————————————————————————————————	1 c	1mc/ctan	_	1000	0 0187	_	val loss.	0 0100
Epoch 436/1000	13	тіііз/ з сер		1033.	0.0107		va1_1033.	0.0103
400/400 ————	1 s	1ms/step	_	loss:	0.0164	_	val_loss:	0.0108
Epoch 437/1000								
400/400	1 s	1ms/step	-	loss:	0.0165	-	val_loss:	0.0103
Epoch 438/1000				,	0 0105			0 0105
400/400 ———————————————————————————————————	15	1ms/step	-	loss:	0.0185	-	val_loss:	0.0105
•	1¢	1ms/sten	_	1055.	0 0184	_	val_loss:	a a1a3
Epoch 440/1000		тшэ, эсср		1033.	0.0104		va1_1055.	0.0103
400/400 ————	1 s	1ms/step	_	loss:	0.0179	_	val_loss:	0.0129
Epoch 441/1000								
400/400	0s	1ms/step	-	loss:	0.0204	-	<pre>val_loss:</pre>	0.0107
Epoch 442/1000				_				
400/400 ————————————————————————————————	1s	1ms/step	-	loss:	0.0188	-	val_loss:	0.0112
Epoch 443/1000 400/400 ————————————————————————————————	1 c	1mc/stan	_	1000	0 0178	_	val loss.	0 0106
Epoch 444/1000	13	тіііз/ з сер		1033.	0.0170		va1_1033.	0.0100
400/400 ————	0s	1ms/step	_	loss:	0.0173	_	val_loss:	0.0109
Epoch 445/1000								
400/400	0s	1ms/step	-	loss:	0.0173	-	val_loss:	0.0109
Epoch 446/1000	_			,	0 0440			0.0100
400/400 ———————————————————————————————————	ØS	ıms/step	-	TOSS:	0.0163	-	var_loss:	0.0129
400/400 ————————————————————————————————	95	1ms/sten	_	1055.	0.0193	_	val loss.	0.0104
Epoch 448/1000		э, эсер			0.0100			0.020-
400/400	0s	1ms/step	_	loss:	0.0182	-	val_loss:	0.0104
		•						

Enoch 440/1000								
Epoch 449/1000 400/400 ————————————————————————————————	– 1c	1ms/sten	_	1055.	a a187	_	val loss.	a a1a2
Epoch 450/1000	-3	тшэ/ эсср		1033.	0.0107		va1_1033.	0.0102
400/400 ————	– 0s	1ms/step	_	loss:	0.0223	_	val loss:	0.0106
Epoch 451/1000							_	
400/400	– 0s	1ms/step	-	loss:	0.0211	-	val_loss:	0.0102
Epoch 452/1000								
	- 1s	1ms/step	-	loss:	0.0178	-	<pre>val_loss:</pre>	0.0124
Epoch 453/1000	_			_				
400/400 ————————————————————————————————	– 0s	1ms/step	-	loss:	0.0217	-	val_loss:	0.0112
Epoch 454/1000 400/400 ————————————————————————————————	_ 1c	1mc/c+on		10001	0 0170		val locci	0 0100
Epoch 455/1000	13	IIIS/Step	-	1055.	0.0178	_	va1_1055.	0.0100
400/400	- 1s	1ms/sten	_	loss:	0.0214	_	val loss:	0.0108
Epoch 456/1000		,						
400/400	- 1s	1ms/step	_	loss:	0.0189	_	val_loss:	0.0108
Epoch 457/1000								
400/400	- 1s	1ms/step	-	loss:	0.0166	-	<pre>val_loss:</pre>	0.0104
Epoch 458/1000				_			_	
400/400	- 1s	1ms/step	-	loss:	0.0228	-	val_loss:	0.0103
Epoch 459/1000 400/400 ————————————————————————————————	_ 1c	1mc/c+on		10001	0 0170		val locci	0 0100
Epoch 460/1000	12	Illis/scep	_	1055.	0.0170	-	va1_1055.	0.0100
•	- 1s	1ms/step	_	loss:	0.0159	_	val_loss:	0.0110
Epoch 461/1000		-,					_	
400/400	- 1s	1ms/step	-	loss:	0.0152	-	<pre>val_loss:</pre>	0.0109
Epoch 462/1000								
400/400	- 1s	1ms/step	-	loss:	0.0170	-	<pre>val_loss:</pre>	0.0109
Epoch 463/1000				_				
400/400 ———————————————————————————————————	- 1s	1ms/step	-	loss:	0.0181	-	var_ross:	0.0106
400/400	– 1c	1ms/sten	_	1055.	a a189	_	val loss.	a a119
Epoch 465/1000		тшэ, эсср		1033.	0.0103		va1_1055.	0.0113
400/400	- 1s	1ms/step	_	loss:	0.0174	_	val_loss:	0.0105
Epoch 466/1000		·					_	
400/400	- 1s	1ms/step	-	loss:	0.0215	-	<pre>val_loss:</pre>	0.0111
Epoch 467/1000								
400/400	- 1s	1ms/step	-	loss:	0.0225	-	val_loss:	0.0111
Epoch 468/1000	1.	1		1	0.0100			0.0100
400/400 ———————————————————————————————————	15	ıms/step	-	1055:	0.0189	-	vai_ioss:	0.0109
400/400	- 1s	1ms/sten	_	loss:	0.0230	_	val loss:	0.0115
Epoch 470/1000		тэ, эсер		1055.	0.0230		·u1_1055.	0.0113
400/400 ————	- 1s	1ms/step	_	loss:	0.0172	_	val_loss:	0.0107
Epoch 471/1000								
400/400	- 1s	1ms/step	-	loss:	0.0161	-	<pre>val_loss:</pre>	0.0114
Epoch 472/1000				_				
	- 1s	1ms/step	-	loss:	0.0177	-	val_loss:	0.0105
Epoch 473/1000	_ 1.	1mc/stop		10001	0 0100		val lassi	0 0100
400/400 ———————————————————————————————————	- 18	тш5/5тер	-	1022:	מאדמימ	-	vaT_1022:	A.0100
400/400	- 0s	1ms/sten	_	loss:	0.0173	_	val loss:	0.0111
Epoch 475/1000	33	э, эсер		_ , , , ,				
400/400 —————	- 1s	1ms/step	-	loss:	0.0206	-	val_loss:	0.0111
Epoch 476/1000								
400/400	- 1s	1ms/step	-	loss:	0.0190	-	<pre>val_loss:</pre>	0.0105

Epoch 477/1000								
400/400	15	1ms/sten	_	loss:	0.0162	_	val loss:	0.0113
Epoch 478/1000		тэ, эсер		1055.	0.0102		·u1_1055.	0.0113
400/400 ————	0s	1ms/step	-	loss:	0.0197	_	val_loss:	0.0119
Epoch 479/1000								
400/400	0s	1ms/step	-	loss:	0.0184	-	<pre>val_loss:</pre>	0.0111
Epoch 480/1000								
400/400	1 s	1ms/step	-	loss:	0.0150	-	val_loss:	0.0113
Epoch 481/1000 400/400 ————————————————————————————————	1 c	1mc/cton	_	1000	0 0173	_	val locc.	0 0110
Epoch 482/1000	13	III3/3CEP	_	1033.	0.01/3	_	va1_1033.	0.0110
400/400 ————	0s	1ms/step	_	loss:	0.0206	_	val loss:	0.0112
Epoch 483/1000							_	
400/400 ————	0s	1ms/step	-	loss:	0.0196	-	<pre>val_loss:</pre>	0.0106
Epoch 484/1000								
400/400	1 s	1ms/step	-	loss:	0.0216	-	val_loss:	0.0110
Epoch 485/1000	4 -	1/-+		1	0 0170			0 0107
400/400 ———————————————————————————————————	15	ıms/step	-	1055:	0.01/8	-	var_ross:	0.0107
400/400 —————	05	1ms/sten	_	loss:	0.0205	_	val loss:	0.0104
Epoch 487/1000		0, 5 ccp			0.0200			
400/400	0s	1ms/step	-	loss:	0.0237	-	val_loss:	0.0111
Epoch 488/1000								
400/400	1 s	1ms/step	-	loss:	0.0184	-	val_loss:	0.0109
Epoch 489/1000	4 -	1		1	0 0101			0.0120
400/400 ———————————————————————————————————	15	1ms/step	-	loss:	0.0181	-	var_ross:	0.0120
400/400	1ς	1ms/sten	_	loss.	0 0193	_	val loss:	0 0107
Epoch 491/1000		тэ, эсер		1055.	0.0133		·u1_1055.	0.0107
400/400 ————	0s	1ms/step	-	loss:	0.0225	_	val_loss:	0.0106
Epoch 492/1000								
	0s	1ms/step	-	loss:	0.0214	-	<pre>val_loss:</pre>	0.0111
Epoch 493/1000	4 -	1/-+		1	0.0103			0.0100
400/400 ———————————————————————————————————	15	ıms/step	-	1055:	0.0193	-	var_ross:	0.0108
400/400 —————	15	1ms/sten	_	loss:	0.0167	_	val loss:	0.0120
Epoch 495/1000		0, 5 ccp			0.020			010110
400/400 ————	1 s	1ms/step	-	loss:	0.0176	-	val_loss:	0.0104
Epoch 496/1000								
400/400	1 s	1ms/step	-	loss:	0.0191	-	val_loss:	0.0113
Epoch 497/1000	4 -	1		1	0.0160			0 0113
400/400 ———————————————————————————————————	15	ıms/step	-	1055:	0.0160	-	vai_ioss:	0.0113
400/400	15	1ms/sten	_	loss:	0.0218	_	val loss:	0.0119
Epoch 499/1000		о, о оор						
400/400	1 s	1ms/step	-	loss:	0.0168	-	val_loss:	0.0119
Epoch 500/1000								
400/400	1 s	1ms/step	-	loss:	0.0217	-	val_loss:	0.0115
Epoch 501/1000	0-	1		1	0.0167			0.0105
400/400 ———————————————————————————————————	05	ıms/step	-	1055:	0.0167	-	var_ross:	0.0105
400/400	15	1ms/sten	_	loss:	0.0153	_	val loss:	0.0109
Epoch 503/1000		, эсер			0.0200			2.0203
400/400	1 s	1ms/step	-	loss:	0.0183	-	val_loss:	0.0138
Epoch 504/1000								
400/400	0s	1ms/step	-	loss:	0.0170	-	val_loss:	0.0107

Frank F0F /1000								
Epoch 505/1000 400/400 ————————————————————————————————	۵c	1mc/cton	_	1000	0 0194	_	val_loss:	0 0126
Epoch 506/1000	03	III3/3CEP	_	1033.	0.0104	_	vai_1033.	0.0120
-	15	1ms/sten	_	loss:	0.0189	_	val_loss:	0.0109
Epoch 507/1000		5, 5 6 6 7			0.0202			0.0202
•	1 s	1ms/step	_	loss:	0.0170	_	val_loss:	0.0108
Epoch 508/1000							_	
400/400	1 s	1ms/step	-	loss:	0.0177	-	<pre>val_loss:</pre>	0.0110
Epoch 509/1000								
	1 s	1ms/step	-	loss:	0.0137	-	val_loss:	0.0121
Epoch 510/1000	_	4 ()		-	0.04==			
400/400 ————————————————————————————————	15	1ms/step	-	loss:	0.01//	-	var_ross:	0.0112
Epoch 511/1000 400/400 ————————————————————————————————	۵c	1mc/cton	_	1000	0 0182	_	val loss.	0 0131
Epoch 512/1000	03	тіііз/ з сер		1033.	0.0102		vai_1033.	0.0131
400/400 ————	0s	1ms/step	_	loss:	0.0184	_	val loss:	0.0128
Epoch 513/1000		, ,					_	
400/400 —————	0s	1ms/step	-	loss:	0.0233	-	<pre>val_loss:</pre>	0.0114
Epoch 514/1000								
	0s	1ms/step	-	loss:	0.0207	-	val_loss:	0.0113
Epoch 515/1000	•	4 / 1		,	0.0166			0 0110
	0S	1ms/step	-	loss:	0.0166	-	val_loss:	0.0110
Epoch 516/1000 400/400 ————————————————————————————————	۵c	1mc/cton	_	1000	0 0176	_	val_loss:	0 0100
Epoch 517/1000	03	тшэ/ эсср		1033.	0.0170		vai_1033.	0.0103
-	0s	1ms/step	_	loss:	0.0220	_	val_loss:	0.0111
Epoch 518/1000							_	
400/400	0s	1ms/step	-	loss:	0.0243	-	<pre>val_loss:</pre>	0.0132
Epoch 519/1000								
	0s	1ms/step	-	loss:	0.0187	-	val_loss:	0.0115
Epoch 520/1000 400/400 ————————————————————————————————	0-	1 / - +		1	0.0100			0 0110
Epoch 521/1000	05	Ims/scep	-	1055:	0.0198	-	va1_1055:	0.0110
-	05	1ms/sten	_	loss:	0.0189	_	val_loss:	0.0107
Epoch 522/1000		5, 5 6 6 7			0.0202			0.000
-	0s	1ms/step	-	loss:	0.0174	-	val_loss:	0.0112
Epoch 523/1000		,						
400/400 ————	0s	1ms/step	-	loss:	0.0181	-	<pre>val_loss:</pre>	0.0107
Epoch 524/1000	_							
400/400 ————————————————————————————————	0s	1ms/step	-	loss:	0.0187	-	val_loss:	0.0109
Epoch 525/1000 400/400 ————————————————————————————————	1.	1mc/c+00	_	1000	0 0100	_	val_loss:	0 0111
Epoch 526/1000	Τ2	ımə/əreb	-	TO22:	0.0103	-	νατ_1022;	0.0111
•	1 s	1ms/step	_	loss:	0.0195	_	val_loss:	0.0113
Epoch 527/1000	-	,r		- /	_		_	_
•	0s	1ms/step	-	loss:	0.0180	-	<pre>val_loss:</pre>	0.0111
Epoch 528/1000								
	0s	1ms/step	-	loss:	0.0207	-	<pre>val_loss:</pre>	0.0109
Epoch 529/1000	_	4		,	0.01=:			0.015=
	15	ıms/step	-	TOSS:	0.0171	-	val_loss:	0.0107
Epoch 530/1000 400/400 ————————————————————————————————	۵c	1mc/cton	_	1000	0 0204	_	val_loss:	0 0107
Epoch 531/1000	03	τιιο/ ο reh	_	1032.	0.0204	_	Λατ ⁻ τ022.	0.010/
•	1 s	1ms/sten	_	loss:	0.0147	_	val_loss:	0.0110
Epoch 532/1000	-	,						
•	0s	1ms/step	-	loss:	0.0204	-	<pre>val_loss:</pre>	0.0110

Fnoch F32/1000								
Epoch 533/1000 400/400 ————————————————————————————————	۵c	1ms/sten	_	1000	0 0165	_	val loss.	0 0114
Epoch 534/1000	03	тіііз/ эсер		1033.	0.0103		va1_1033.	0.0114
400/400 ————	0s	1ms/step	_	loss:	0.0177	_	val loss:	0.0111
Epoch 535/1000							_	
400/400 —————	0s	1ms/step	-	loss:	0.0153	-	<pre>val_loss:</pre>	0.0114
Epoch 536/1000								
	0s	1ms/step	-	loss:	0.0181	-	<pre>val_loss:</pre>	0.0118
Epoch 537/1000	_			,				0.0440
400/400 ————————————————————————————————	0S	1ms/step	-	loss:	0.01//	-	val_loss:	0.0119
Epoch 538/1000 400/400 ————————————————————————————————	1 c	1mc/stan	_	1000	0 0187	_	val locc.	0 0106
Epoch 539/1000	13	тіііз/ з сер		1033.	0.0107		va1_1033.	0.0100
400/400 ————	1 s	1ms/step	_	loss:	0.0190	_	val loss:	0.0108
Epoch 540/1000		-,					_	
400/400	1 s	1ms/step	-	loss:	0.0193	-	val_loss:	0.0111
Epoch 541/1000								
400/400	1 s	1ms/step	-	loss:	0.0169	-	<pre>val_loss:</pre>	0.0113
Epoch 542/1000	_	4 / 1		,	0 0000			0.010:
400/400 ————————————————————————————————	15	1ms/step	-	loss:	0.0200	-	var_ross:	0.0104
400/400	1ς	1ms/sten	_	loss.	0 0174	_	val loss:	0 0104
Epoch 544/1000		тшэ, эсср		1033.	0.0174		va1_1055.	0.0104
-	0s	1ms/step	_	loss:	0.0213	_	val_loss:	0.0116
Epoch 545/1000								
400/400	0s	1ms/step	-	loss:	0.0174	-	<pre>val_loss:</pre>	0.0114
Epoch 546/1000	_			_				
400/400	0s	1ms/step	-	loss:	0.0146	-	val_loss:	0.0113
Epoch 547/1000 400/400 ————————————————————————————————	ac.	1mc/cton		1000	0 0170		val locc:	0 0115
Epoch 548/1000	03	тш3/3сер	_	1033.	0.0170	_	va1_1033.	0.0113
400/400 ————	0s	1ms/step	_	loss:	0.0194	_	val loss:	0.0113
Epoch 549/1000		, ,					_	
400/400	0s	1ms/step	-	loss:	0.0171	-	<pre>val_loss:</pre>	0.0115
Epoch 550/1000								
400/400	0s	1ms/step	-	loss:	0.0192	-	val_loss:	0.0110
Epoch 551/1000	0-	1 / - +		1	0 0150			0.0100
400/400 ———————————————————————————————————	05	ıms/step	-	1055:	0.0158	-	vai_ioss:	0.0109
400/400	05	1ms/sten	_	loss:	0.0195	_	val loss:	0.0117
Epoch 553/1000	0.5	тэ, эсер		1055.	0.0133		·u1_1055.	0.0117
400/400 ————	1 s	1ms/step	-	loss:	0.0195	-	val_loss:	0.0108
Epoch 554/1000								
400/400	1 s	1ms/step	-	loss:	0.0183	-	<pre>val_loss:</pre>	0.0113
Epoch 555/1000								
400/400	1 s	1ms/step	-	loss:	0.0210	-	val_loss:	0.0111
Epoch 556/1000 400/400 ————————————————————————————————	1.0	1mc/c+on		10001	0 0163		val locci	0 0115
Epoch 557/1000	12	IIIS/Step	-	1055.	0.0103	-	va1_1055.	0.0115
400/400	1s	1ms/step	_	loss:	0.0188	_	val loss:	0.0122
Epoch 558/1000		о, о оор						
400/400 —————	1 s	1ms/step	-	loss:	0.0191	-	val_loss:	0.0112
Epoch 559/1000								
400/400 ————	1 s	1ms/step	-	loss:	0.0210	-	<pre>val_loss:</pre>	0.0111
Epoch 560/1000	_			,				
400/400	1 s	1ms/step	-	loss:	0.0181	-	val_loss:	0.0114

5 564/4000								
Epoch 561/1000 400/400 ————————————————————————————————	1.0	2ms/ston		1000	0 0105		val_loss:	0 0115
Epoch 562/1000	13	21113/3 Cep	-	1055.	0.0103	_	va1_1055.	0.0113
400/400 ————	1 s	1ms/step	_	loss:	0.0202	_	val loss:	0.0113
Epoch 563/1000		·					_	
	1 s	1ms/step	-	loss:	0.0173	-	<pre>val_loss:</pre>	0.0108
Epoch 564/1000				_				
400/400 ————————————————————————————————	1s	1ms/step	-	loss:	0.0172	-	val_loss:	0.0117
Epoch 565/1000 400/400 ————————————————————————————————	1ς	1ms/sten	_	loss	0 0180	_	val_loss:	0 0114
Epoch 566/1000		тііі 37 3 сер		1033.	0.0100		va1_1055.	0.0114
•	1 s	1ms/step	-	loss:	0.0168	-	val_loss:	0.0111
Epoch 567/1000								
400/400	1 s	1ms/step	-	loss:	0.0157	-	val_loss:	0.0108
Epoch 568/1000	1.	1		1	0 0101			0.0136
400/400 ———————————————————————————————————	15	ıms/step	-	1055:	0.0181	-	va1_1055:	0.0126
400/400	1s	1ms/step	_	loss:	0.0184	_	val loss:	0.0112
Epoch 570/1000		-,						
400/400	1 s	1ms/step	-	loss:	0.0153	-	<pre>val_loss:</pre>	0.0113
Epoch 571/1000	_			_				
400/400 ————————————————————————————————	0s	1ms/step	-	loss:	0.0187	-	val_loss:	0.0113
Epoch 572/1000 400/400 ————————————————————————————————	95	1ms/sten	_	loss:	0.0179	_	val_loss:	0.0115
Epoch 573/1000		, 5 ccp			0,02,2			0.0223
400/400 —————	0s	1ms/step	-	loss:	0.0185	-	<pre>val_loss:</pre>	0.0107
Epoch 574/1000								
400/400	1 s	1ms/step	-	loss:	0.0190	-	val_loss:	0.0111
Epoch 575/1000 400/400 ————————————————————————————————	۵c	1mc/cton	_	1000	0 017/	_	val loss.	0 0125
Epoch 576/1000	03	тіііз/ эсер		1033.	0.0174		va1_1033.	0.0123
•	0s	1ms/step	-	loss:	0.0209	-	val_loss:	0.0108
Epoch 577/1000								
400/400	1 s	1ms/step	-	loss:	0.0163	-	val_loss:	0.0114
Epoch 578/1000 400/400 ———————	1 c	1ms/sten	_	1055.	0 0158	_	val loss:	0 0123
Epoch 579/1000	13	тіііз/ эсер		1033.	0.0130		va1_1033.	0.0123
400/400 —————	1 s	1ms/step	-	loss:	0.0175	-	val_loss:	0.0112
Epoch 580/1000								
400/400	1 s	1ms/step	-	loss:	0.0170	-	val_loss:	0.0114
Epoch 581/1000 400/400 ————————————————————————————————	1 c	1mc/cton	_	1000	0 0191		val locc:	0 0106
Epoch 582/1000	13	тіііз/ з сер		1033.	0.0101		va1_1033.	0.0100
400/400	0s	1ms/step	-	loss:	0.0185	-	val_loss:	0.0111
Epoch 583/1000								
400/400	0s	1ms/step	-	loss:	0.0204	-	val_loss:	0.0110
Epoch 584/1000 400/400 ——————	ac.	1mc/cton		1000	0 0100		val locc.	0 0110
Epoch 585/1000	03	тіііз/ з сер	_	1033.	0.0100	_	va1_1033.	0.0110
400/400	1 s	1ms/step	-	loss:	0.0141	-	val_loss:	0.0119
Epoch 586/1000								
400/400	1 s	1ms/step	-	loss:	0.0200	-	val_loss:	0.0112
Epoch 587/1000	1-	1mc/c+==		1000	0 0170		val lass:	0 0115
400/400 ———————————————————————————————————	TS	ıııs/steb	-	TOSS:	0.01/0	-	vaT_1022;	פדדם. פ
400/400 ————	1 s	1ms/step	_	loss:	0.0183	_	val_loss:	0.0105
- -	_	,r		- 1				

Fnach F90/1000								
Epoch 589/1000 400/400 ————————————————————————————————	1 c	1mc/cton	_	1000	0 0234	_	val locc.	0 0109
Epoch 590/1000	13	Illis/scep	_	1033.	0.0254	_	va1_1033.	0.0108
400/400 ————	- 1s	1ms/step	_	loss:	0.0216	_	val loss:	0.0123
Epoch 591/1000		-,					_	
400/400	0 s	1ms/step	-	loss:	0.0211	-	val_loss:	0.0110
Epoch 592/1000								
	1 s	1ms/step	-	loss:	0.0182	-	<pre>val_loss:</pre>	0.0113
Epoch 593/1000				_				
	- 1s	1ms/step	-	loss:	0.0164	-	val_loss:	0.0121
Epoch 594/1000 400/400 ————————————————————————————————	0.0	1mc/c+on		1000	0 0171		val locci	0 0112
Epoch 595/1000	03	Illis/steb	_	1055.	0.01/1	-	va1_1055.	0.0113
400/400 ————	- 1s	1ms/step	_	loss:	0.0189	_	val loss:	0.0119
Epoch 596/1000		-,					_	
400/400	1 s	1ms/step	-	loss:	0.0179	-	val_loss:	0.0111
Epoch 597/1000								
400/400 ————	0 s	1ms/step	-	loss:	0.0138	-	val_loss:	0.0117
Epoch 598/1000	•	1		1 -	0.0151			0.0446
400/400 ———————————————————————————————————	- 05	1ms/step	-	loss:	0.0164	-	var_ross:	0.0110
400/400	- 15	1ms/sten	_	loss:	0.0172	_	val loss:	0.0127
Epoch 600/1000		тэ, эсер		1055.	0.01,2		·u1_1055.	0.012
-	0 s	1ms/step	-	loss:	0.0178	_	val_loss:	0.0111
Epoch 601/1000								
400/400	1 s	1ms/step	-	loss:	0.0179	-	<pre>val_loss:</pre>	0.0110
Epoch 602/1000								
400/400 ————————————————————————————————	1 S	1ms/step	-	loss:	0.0202	-	val_loss:	0.0109
Epoch 603/1000 400/400 ————————————————————————————————	1 c	1mc/ctan	_	1000	0 0187	_	val locc.	0 0101
Epoch 604/1000	13	тіііз/ зеер		1033.	0.0107		va1_1033.	0.0104
400/400	1 s	1ms/step	_	loss:	0.0175	_	val_loss:	0.0110
Epoch 605/1000								
400/400	1 s	1ms/step	-	loss:	0.0140	-	<pre>val_loss:</pre>	0.0125
Epoch 606/1000	_							
400/400 ————————————————————————————————	1 S	1ms/step	-	loss:	0.0193	-	val_loss:	0.0114
Epoch 607/1000 400/400 ————————————————————————————————	۵ς	1ms/sten	_	1055.	0 0176	_	val_loss:	a a126
Epoch 608/1000	03	тіііз/ эсер		1033.	0.0170		va1_1033.	0.0120
400/400 ————	1 s	1ms/step	_	loss:	0.0194	_	val loss:	0.0111
Epoch 609/1000							_	
400/400	1 s	1ms/step	-	loss:	0.0141	-	<pre>val_loss:</pre>	0.0112
Epoch 610/1000				_				_
400/400 ————————————————————————————————	1 s	1ms/step	-	loss:	0.0158	-	val_loss:	0.0112
Epoch 611/1000 400/400 ————————————————————————————————	. 1.	1mc/c+05		1000	0 0215		val locci	0 0100
Epoch 612/1000	12	ıııs/steb	-	TO22;	0.0213	-	AaT_T022:	9.0103
-	1 s	1ms/step	_	loss:	0.0173	_	val_loss:	0.0109
Epoch 613/1000		·,P		•				
400/400 —————	1 s	1ms/step	-	loss:	0.0156	-	<pre>val_loss:</pre>	0.0115
Epoch 614/1000								
	1 s	1ms/step	-	loss:	0.0186	-	val_loss:	0.0120
Epoch 615/1000	4 -	1mc/-+-		1	0.000		val 1	0.0100
400/400 ———————————————————————————————————	TS	TIIIS/STep	-	TOSS:	0.0203	-	AaT_TO22:	0.0109
400/400	- 1s	1ms/sten	_	loss	0.0201	_	val loss:	0.0104
,		тэ, эсср			0.0201		- 4033.	5.5104

Frank (17/1000								
Epoch 617/1000 400/400 ————————————————————————————————	1 c	1ms/sten	_	1055.	0 0184	_	val_loss:	0 0112
Epoch 618/1000	13	тшэ/ эсср		1033.	0.0104		va1_1033.	0.0112
-	1s	1ms/step	_	loss:	0.0185	_	val_loss:	0.0110
Epoch 619/1000		о, о оор						
-	1 s	1ms/step	_	loss:	0.0190	_	val_loss:	0.0118
Epoch 620/1000							_	
400/400	1 s	1ms/step	-	loss:	0.0192	-	val_loss:	0.0111
Epoch 621/1000								
400/400	1 s	1ms/step	-	loss:	0.0170	-	<pre>val_loss:</pre>	0.0114
Epoch 622/1000								
	0s	1ms/step	-	loss:	0.0153	-	<pre>val_loss:</pre>	0.0119
Epoch 623/1000				_				
400/400	1 s	1ms/step	-	loss:	0.0194	-	val_loss:	0.0115
Epoch 624/1000	4 -	4 / 1		,	0.0457			0 0447
400/400 ————————————————————————————————	15	1ms/step	-	loss:	0.015/	-	val_loss:	0.011/
Epoch 625/1000 400/400 ————————————————————————————————	10	1mc/c+on	_	1000	0 0212	_	val_loss:	0 0110
Epoch 626/1000	12	ıııs/sceb	-	1022.	0.0213	-	var_1022.	0.0110
-	1s	1ms/sten	_	loss:	0.0165	_	val_loss:	0.0108
Epoch 627/1000	_5				2.0200			2.0200
-	1s	1ms/step	-	loss:	0.0225	-	val_loss:	0.0115
Epoch 628/1000								
400/400	1 s	1ms/step	-	loss:	0.0131	-	<pre>val_loss:</pre>	0.0137
Epoch 629/1000								
	1 s	1ms/step	-	loss:	0.0183	-	val_loss:	0.0112
Epoch 630/1000				-				
	1s	1ms/step	-	loss:	0.0199	-	val_loss:	0.0116
Epoch 631/1000 400/400 ————————————————————————————————	1.	1mc/c+on		1000	0 0164		val locci	0 0100
Epoch 632/1000	12	IIIS/Steb	-	1055.	0.0104	-	va1_1055.	0.0103
400/400 —————	05	1ms/sten	_	loss:	0.0189	_	val loss:	0.0116
Epoch 633/1000		о, о оор						
•	1 s	1ms/step	-	loss:	0.0161	_	val_loss:	0.0108
Epoch 634/1000							_	
400/400	1 s	1ms/step	-	loss:	0.0171	-	<pre>val_loss:</pre>	0.0113
Epoch 635/1000								
400/400	0s	1ms/step	-	loss:	0.0186	-	val_loss:	0.0114
Epoch 636/1000	_			,				
400/400 ————————————————————————————————	15	ıms/step	-	Toss:	0.0171	-	val_loss:	0.0106
Epoch 637/1000 400/400 ————————————————————————————————	1.	1mc/c+on		locci	0 0101		val locci	0 0122
Epoch 638/1000	Τ2	ıπ2/2ceb	-	TO22;	0.0191	-	val_loss:	0.0122
-	15	1ms/sten	_	1055:	0.0130	_	val_loss:	0.0131
Epoch 639/1000		э, эсср		1000.	3.0130		. 41_1033.	3.0131
-	1 s	1ms/step	_	loss:	0.0181	_	val_loss:	0.0115
Epoch 640/1000		,					_	
•	1 s	2ms/step	-	loss:	0.0172	-	<pre>val_loss:</pre>	0.0108
Epoch 641/1000								
	1 s	2ms/step	-	loss:	0.0186	-	<pre>val_loss:</pre>	0.0113
Epoch 642/1000				_				
	1 s	1ms/step	-	loss:	0.0170	-	val_loss:	0.0110
Epoch 643/1000	1-	1mc/c+==		1000	0 0170		val lass:	0 0112
	TS	Tms/steb	-	TO22:	ρ.υ1/8	-	val_loss:	0.0113
Epoch 644/1000 400/400 ————————————————————————————————	1 c	1mc/cton	_	1000	0 0102	_	val_loss:	0 0116
700/400	Τ2	11113/3 CEβ	-	TO22:	0.0133	-	AQT_T022;	0.0110

Enoch 645/1000								
Epoch 645/1000 400/400 ————————————————————————————————	15	1ms/sten	_	loss:	0.0162	_	val loss:	0.0114
Epoch 646/1000		тэ, эсер		1055.	0.0101		·u1_1055.	0.011.
400/400	1 s	1ms/step	_	loss:	0.0163	_	val loss:	0.0116
Epoch 647/1000							_	
400/400	0s	1ms/step	-	loss:	0.0180	-	<pre>val_loss:</pre>	0.0109
Epoch 648/1000								
	1 s	1ms/step	-	loss:	0.0174	-	<pre>val_loss:</pre>	0.0114
Epoch 649/1000	4.	1/-+		1	0.0204			0.0122
400/400 — Epoch 650/1000	15	ıms/step	-	TOSS:	0.0204	-	val_loss:	0.0122
•	1¢	1ms/sten	_	1000	a a171	_	val_loss:	0 0113
Epoch 651/1000		тэ, эсср		1033.	0.0171		va1_1055.	0.0113
400/400 ————	1 s	1ms/step	_	loss:	0.0165	_	val loss:	0.0117
Epoch 652/1000							_	
400/400	1 s	2ms/step	-	loss:	0.0161	-	<pre>val_loss:</pre>	0.0117
Epoch 653/1000								
400/400 ————	1 s	1ms/step	-	loss:	0.0212	-	val_loss:	0.0117
Epoch 654/1000	4 -	1		1	0.0100			0.0100
400/400 Epoch 655/1000	15	ıms/step	-	TOSS:	0.0199	-	var_ross:	0.0120
400/400	05	1ms/sten	_	loss:	0.0178	_	val loss:	0.0113
Epoch 656/1000		5, 5 6 6 7			0,02,0			010115
•	1 s	1ms/step	-	loss:	0.0161	-	val_loss:	0.0117
Epoch 657/1000								
400/400 ————	1 s	1ms/step	-	loss:	0.0165	-	<pre>val_loss:</pre>	0.0112
Epoch 658/1000				_				
400/400	1s	1ms/step	-	loss:	0.0183	-	val_loss:	0.0111
Epoch 659/1000 400/400 ————————————————————————————————	1.	1mc/cton		1000	0 0176		val locc:	0 0112
Epoch 660/1000	13	тіііз/ з сер	_	1033.	0.0170	_	va1_1033.	0.0113
400/400 ————	1 s	1ms/step	_	loss:	0.0183	_	val loss:	0.0113
Epoch 661/1000								
400/400 ————	0s	1ms/step	-	loss:	0.0164	-	<pre>val_loss:</pre>	0.0112
Epoch 662/1000								
400/400	1 s	1ms/step	-	loss:	0.0191	-	val_loss:	0.0113
Epoch 663/1000	1.	1 / - +		1	0 0200			0 0112
400/400 ———————————————————————————————————	15	ıms/step	-	1055:	0.0200	-	vai_ioss:	0.0112
400/400	15	1ms/sten	_	loss:	0.0195	_	val loss:	0.0127
Epoch 665/1000		тэ, эсер		1055.	0.0133		·u1_1055.	0.0127
400/400 ————	1 s	1ms/step	-	loss:	0.0186	-	val_loss:	0.0111
Epoch 666/1000								
400/400	0s	1ms/step	-	loss:	0.0188	-	<pre>val_loss:</pre>	0.0112
Epoch 667/1000								
400/400	0s	1ms/step	-	loss:	0.0181	-	val_loss:	0.0109
Epoch 668/1000 400/400 ————————————————————————————————	1.0	1mc/c+on		10001	0 0105		val_loss:	0 0100
Epoch 669/1000	12	IIIS/Step	-	1055.	0.0103	-	va1_1055.	0.0109
400/400 —————	1s	2ms/step	_	loss:	0.0174	_	val loss:	0.0116
Epoch 670/1000					 , T			
•	1 s	1ms/step	-	loss:	0.0158	-	val_loss:	0.0128
Epoch 671/1000								
400/400	1 s	1ms/step	-	loss:	0.0192	-	<pre>val_loss:</pre>	0.0119
Epoch 672/1000	_							
400/400	1 s	1ms/step	-	loss:	0.0188	-	val_loss:	0.0110

Enach 672/1000	
Epoch 673/1000	- 1s 1ms/step - loss: 0.0170 - val_loss: 0.0111
Epoch 674/1000	25 1m3, seep 1033. 0.017.0 var_1033. 0.0111
	- 1s 1ms/step - loss: 0.0154 - val_loss: 0.0112
Epoch 675/1000	
400/400	- 1s 2ms/step - loss: 0.0162 - val_loss: 0.0111
Epoch 676/1000	
	<pre>- 1s 2ms/step - loss: 0.0161 - val_loss: 0.0115</pre>
Epoch 677/1000	4 0 / 1 0 0400 1 1 0 0440
	<pre>- 1s 2ms/step - loss: 0.0192 - val_loss: 0.0110</pre>
Epoch 678/1000 400/400 ————————————————————————————————	- 1s 2ms/step - loss: 0.0177 - val_loss: 0.0119
Epoch 679/1000	13 2m3/3tep - 1033. 0.01// - Val_1033. 0.0113
	- 1s 2ms/step - loss: 0.0174 - val_loss: 0.0115
Epoch 680/1000	
400/400	- 1s 2ms/step - loss: 0.0169 - val_loss: 0.0109
Epoch 681/1000	
	- 1s 2ms/step - loss: 0.0166 - val_loss: 0.0115
Epoch 682/1000	4.4 / 1 0 0474 11 0 0445
Epoch 683/1000	<pre>- 1s 1ms/step - loss: 0.0174 - val_loss: 0.0115</pre>
	- 1s 2ms/step - loss: 0.0175 - val_loss: 0.0124
Epoch 684/1000	
-	- 1s 2ms/step - loss: 0.0189 - val_loss: 0.0113
Epoch 685/1000	
	- 1s 2ms/step - loss: 0.0179 - val_loss: 0.0132
Epoch 686/1000	
	<pre>- 1s 1ms/step - loss: 0.0177 - val_loss: 0.0117</pre>
Epoch 687/1000	- 1s 1ms/step - loss: 0.0204 - val_loss: 0.0113
Epoch 688/1000	13 1 m3/3 ccp 1033. 0.0204 var_1033. 0.0113
	- 1s 1ms/step - loss: 0.0176 - val_loss: 0.0128
Epoch 689/1000	
	- 1s 1ms/step - loss: 0.0180 - val_loss: 0.0110
Epoch 690/1000	
	<pre>- 1s 2ms/step - loss: 0.0171 - val_loss: 0.0111</pre>
Epoch 691/1000 400/400 ————————————————————————————————	- 1s 2ms/step - loss: 0.0161 - val loss: 0.0111
Epoch 692/1000	- 15 2ms/step - 10ss. 0.0101 - Vai_10ss. 0.0111
•	- 1s 2ms/step - loss: 0.0194 - val_loss: 0.0116
Epoch 693/1000	
•	- 1s 2ms/step - loss: 0.0177 - val_loss: 0.0114
Epoch 694/1000	
	- 1s 1ms/step - loss: 0.0183 - val_loss: 0.0112
Epoch 695/1000	
	- 1s 1ms/step - loss: 0.0167 - val_loss: 0.0122
Epoch 696/1000 400/400 ————————————————————————————————	- 1s 1ms/step - loss: 0.0174 - val_loss: 0.0116
Epoch 697/1000	13 1 m3/3 ccp 1033. 0.01/4 var_1033. 0.0110
•	- 1s 1ms/step - loss: 0.0172 - val_loss: 0.0112
Epoch 698/1000	
	- 1s 2ms/step - loss: 0.0190 - val_loss: 0.0108
Epoch 699/1000	
	<pre>- 1s 2ms/step - loss: 0.0192 - val_loss: 0.0106</pre>
Epoch 700/1000	<pre>- 1s 2ms/step - loss: 0.0146 - val_loss: 0.0112</pre>
+00/400	- 13 ZIIIS/Step - 1088: 0.0140 - Val_1088: 0.0112

Enoch 701/1000								
Epoch 701/1000 400/400 ————————————————————————————————	– 1c	1mc/ctan	_	1000	0 0151	_	val locc.	0 0110
Epoch 702/1000	13	тіііз/ з сер		1033.	0.0131		vai_1033.	0.0110
400/400 ————	- 1s	1ms/sten	_	loss:	0.0186	_	val loss:	0.0112
Epoch 703/1000		о, о сер			0.0200			0.0
400/400	- 1s	2ms/step	-	loss:	0.0173	-	val_loss:	0.0116
Epoch 704/1000								
400/400	- 1s	2ms/step	-	loss:	0.0179	-	<pre>val_loss:</pre>	0.0106
Epoch 705/1000								
	- 1s	2ms/step	-	loss:	0.0210	-	<pre>val_loss:</pre>	0.0113
Epoch 706/1000				_				
	- 1s	1ms/step	-	loss:	0.0225	-	val_loss:	0.0116
Epoch 707/1000 400/400 ————————————————————————————————	_ 1c	1mc/c+on		10001	0 0146		val locci	0 0111
Epoch 708/1000	12	IIIS/Step	-	1055:	0.0146	-	va1_1055:	0.0111
400/400	– 1s	2ms/sten	_	loss	0 0149	_	val loss:	0 0124
Epoch 709/1000	13	211137 3 ССР		1033.	0.0145		va1_1033.	0.0124
400/400 ————	- 1s	2ms/step	_	loss:	0.0172	_	val loss:	0.0112
Epoch 710/1000								
400/400	- 1s	2ms/step	-	loss:	0.0161	-	<pre>val_loss:</pre>	0.0112
Epoch 711/1000								
400/400	- 1s	2ms/step	-	loss:	0.0187	-	<pre>val_loss:</pre>	0.0113
Epoch 712/1000				_				
	- 1s	1ms/step	-	loss:	0.0155	-	val_loss:	0.0110
Epoch 713/1000	_ 1.	2ms/stan		10001	0 0172		val lassi	0 0122
400/400 ———————————————————————————————————	12	ziiis/step	-	1055:	0.01/2	-	va1_1055:	0.0123
400/400	– 1s	1ms/sten	_	loss	0 0200	_	val loss:	0 0108
Epoch 715/1000		тііі у осер		1033.	0.0200		va1_1055.	0.0100
400/400 ————	- 1s	1ms/step	_	loss:	0.0165	_	val loss:	0.0119
Epoch 716/1000		·					_	
400/400	- 1s	1ms/step	-	loss:	0.0176	-	<pre>val_loss:</pre>	0.0124
Epoch 717/1000								
400/400	- 1s	1ms/step	-	loss:	0.0166	-	val_loss:	0.0118
Epoch 718/1000	4.	4 / 1		,	0 0116			0 0130
400/400 ————————————————————————————————	- 1s	1ms/step	-	loss:	0.0146	-	var_ross:	0.0139
Epoch 719/1000 400/400 ————————————————————————————————	– 1c	1mc/ctan	_	1000	0 0155	_	val locc.	0 0110
Epoch 720/1000	13	тіііз/ з сер		1033.	0.0133		va1_1033.	0.0115
400/400 ————	- 1s	2ms/step	_	loss:	0.0141	_	val loss:	0.0120
Epoch 721/1000		-,					_	
400/400	- 1s	1ms/step	-	loss:	0.0173	-	val_loss:	0.0116
Epoch 722/1000								
400/400	- 1s	2ms/step	-	loss:	0.0154	-	<pre>val_loss:</pre>	0.0109
Epoch 723/1000								
400/400	- 1s	1ms/step	-	loss:	0.0155	-	val_loss:	0.0111
Epoch 724/1000	4.	2 / - +		1	0.0103			0 0112
	- 15	2ms/step	-	TOSS:	0.0193	-	val_loss:	0.0112
Epoch 725/1000 400/400 ————————————————————————————————	– 1c	2ms/stan	_	1000	0 0198	_	val locc.	a a11a
Epoch 726/1000	13	21113/3 СЕР		1033.	0.0156		va1_1033.	0.0110
400/400 ————	- 1s	1ms/step	_	loss:	0.0147	_	val loss:	0.0116
Epoch 727/1000	_	, r		- •	·		_	-
400/400	- 1s	2ms/step	-	loss:	0.0162	-	<pre>val_loss:</pre>	0.0127
Epoch 728/1000								
400/400 ————	- 1s	1ms/step	-	loss:	0.0147	-	<pre>val_loss:</pre>	0.0118

Enach 730/1000								
Epoch 729/1000 400/400 ————————————————————————————————	1¢	1ms/sten	_	1055.	0 0144	_	val loss.	0 0112
Epoch 730/1000	13	тшэ/ эсср		1033.	0.0144		va1_1033.	0.0112
400/400 ————	1 s	2ms/step	_	loss:	0.0178	_	val loss:	0.0110
Epoch 731/1000							_	
400/400 —————	1 s	2ms/step	-	loss:	0.0177	-	<pre>val_loss:</pre>	0.0106
Epoch 732/1000								
400/400	1 s	1ms/step	-	loss:	0.0160	-	<pre>val_loss:</pre>	0.0117
Epoch 733/1000		4 ()		,	0 0107			0.0440
400/400 ————————————————————————————————	15	1ms/step	-	loss:	0.013/	-	val_loss:	0.0110
Epoch 734/1000 400/400 ————————————————————————————————	1 c	2mc/stan	_	1000	0 0101	_	val locc.	0 0112
Epoch 735/1000	13	21113/3 ССР		1033.	0.0151		va1_1033.	0.0112
400/400 ————	1 s	1ms/step	_	loss:	0.0186	_	val loss:	0.0110
Epoch 736/1000		-,					_	
400/400	1 s	2ms/step	-	loss:	0.0177	-	val_loss:	0.0109
Epoch 737/1000								
400/400	1 s	1ms/step	-	loss:	0.0166	-	<pre>val_loss:</pre>	0.0105
Epoch 738/1000	_	4 / 1		,	0.0175			0.010:
400/400 ————————————————————————————————	15	1ms/step	-	loss:	0.01/0	-	val_loss:	0.0104
Epoch 739/1000 400/400 ————————————————————————————————	1¢	1ms/sten	_	1000	0 0163	_	val loss.	0 0117
Epoch 740/1000		тэ, эсср		1033.	0.0103		va1_1055.	0.0117
•	1 s	1ms/step	-	loss:	0.0210	_	val_loss:	0.0109
Epoch 741/1000								
400/400	1 s	1ms/step	-	loss:	0.0176	-	<pre>val_loss:</pre>	0.0111
Epoch 742/1000				_				
400/400	1s	2ms/step	-	loss:	0.0197	-	val_loss:	0.0111
Epoch 743/1000 400/400 ————————————————————————————————	1.	2ms/ston		1000	0 0166		val locc:	0 0112
Epoch 744/1000	13	21113/3CEP	_	1033.	0.0100	_	va1_1033.	0.0113
400/400 ————	1 s	2ms/step	_	loss:	0.0162	_	val loss:	0.0113
Epoch 745/1000							_	
400/400	1 s	2ms/step	-	loss:	0.0193	-	<pre>val_loss:</pre>	0.0108
Epoch 746/1000								
400/400	1 s	1ms/step	-	loss:	0.0175	-	val_loss:	0.0110
Epoch 747/1000	1.	1 / - +		1	0.0160			0 0111
400/400 ———————————————————————————————————	15	ıms/step	-	1055:	0.0160	-	vai_ioss:	0.0111
400/400	15	2ms/sten	_	loss:	0.0154	_	val loss:	0.0108
Epoch 749/1000		23, эсер		1055.	0.013.		·u1_1055.	0.0100
400/400 ————	1 s	1ms/step	-	loss:	0.0177	-	val_loss:	0.0108
Epoch 750/1000								
400/400	1 s	1ms/step	-	loss:	0.0223	-	<pre>val_loss:</pre>	0.0118
Epoch 751/1000								
400/400	1 s	1ms/step	-	loss:	0.0167	-	val_loss:	0.0111
Epoch 752/1000 400/400 ————————————————————————————————	1.0	2mc/c+on		10001	0 0154		val locci	0 0100
Epoch 753/1000	12	ziiis/step	-	1055.	0.0154	-	va1_1055.	0.0100
400/400	1s	2ms/step	_	loss:	0.0188	_	val loss:	0.0107
Epoch 754/1000		-,					_	
400/400 —————	1 s	1ms/step	-	loss:	0.0165	-	<pre>val_loss:</pre>	0.0114
Epoch 755/1000								
400/400	1 s	1ms/step	-	loss:	0.0206	-	val_loss:	0.0113
Epoch 756/1000	4 -	2ma / - 1		1	0.040=			0 0115
400/400	15	2ms/step	-	Toss:	0.0197	-	var_loss:	0.0116

Enoch 757/1000								
Epoch 757/1000 400/400 ————————————————————————————————	– 1c	2ms/sten	_	1055.	0 0165	_	val loss.	0 0116
Epoch 758/1000		211137 3 CCP		1033.	0.0103		va1_1033.	0.0110
400/400 ————	- 1s	1ms/step	_	loss:	0.0153	_	val loss:	0.0116
Epoch 759/1000							_	
400/400	- 1s	2ms/step	-	loss:	0.0170	-	<pre>val_loss:</pre>	0.0108
Epoch 760/1000								
	- 1s	1ms/step	-	loss:	0.0145	-	<pre>val_loss:</pre>	0.0109
Epoch 761/1000				_				
	- 1s	1ms/step	-	loss:	0.0165	-	val_loss:	0.011/
Epoch 762/1000 400/400 ————————————————————————————————	1 c	1mc/stan	_	1000	0 0200	_	val locc.	0 0100
Epoch 763/1000	13	тіііз/ з сер		1033.	0.0203		va1_1033.	0.0103
400/400 ————	- 1s	1ms/step	_	loss:	0.0169	_	val loss:	0.0117
Epoch 764/1000		, ,					_	
400/400 ————	- 1s	1ms/step	-	loss:	0.0189	-	<pre>val_loss:</pre>	0.0112
Epoch 765/1000								
400/400 ————	- 1s	1ms/step	-	loss:	0.0184	-	val_loss:	0.0110
Epoch 766/1000	4.	1		1	0 0176			0 0117
400/400 — Epoch 767/1000	- 15	ims/step	-	1055:	0.01/6	-	vai_ioss:	0.011/
400/400 ————	- 1s	1ms/step	_	loss:	0.0171	_	val loss:	0.0120
Epoch 768/1000		,						
400/400	- 1s	1ms/step	-	loss:	0.0168	-	<pre>val_loss:</pre>	0.0107
Epoch 769/1000								
400/400	- 1s	1ms/step	-	loss:	0.0178	-	val_loss:	0.0111
Epoch 770/1000	4.	1		1	0 0170			0 0112
400/400 ———————————————————————————————————	- 15	ıms/step	-	1055:	0.01/8	-	var_ross:	0.0112
400/400 ————	- 1s	1ms/sten	_	loss:	0.0182	_	val loss:	0.0106
Epoch 772/1000								
400/400 —————	- 1s	1ms/step	-	loss:	0.0165	-	<pre>val_loss:</pre>	0.0114
Epoch 773/1000								
400/400	- 1s	2ms/step	-	loss:	0.0175	-	val_loss:	0.0107
Epoch 774/1000	1.	1		1	0 0103			0 0110
400/400 ———————————————————————————————————	- 15	ims/step	-	1055:	0.0182	-	vai_ioss:	0.0119
400/400	- 1s	1ms/sten	_	loss:	0.0182	_	val loss:	0.0109
Epoch 776/1000		5,500p			0.0202			0.0202
400/400 ————	- 1s	1ms/step	-	loss:	0.0208	-	val_loss:	0.0110
Epoch 777/1000								
400/400	- 1s	1ms/step	-	loss:	0.0183	-	val_loss:	0.0111
Epoch 778/1000	4.	2 / 1		,	0.0405			0 0440
400/400 ————————————————————————————————	- 1s	2ms/step	-	loss:	0.0185	-	val_loss:	0.0112
Epoch 779/1000 400/400 ————————————————————————————————	- 1c	2ms/sten	_	1055.	a a172	_	val loss.	0 0104
Epoch 780/1000		211137 3 сер		1033.	0.0172		va1_1055.	0.0104
•	- 1s	2ms/step	-	loss:	0.0193	_	val_loss:	0.0108
Epoch 781/1000								
400/400	- 1s	2ms/step	-	loss:	0.0170	-	<pre>val_loss:</pre>	0.0118
Epoch 782/1000	_			,				
400/400 ————————————————————————————————	- 1s	1ms/step	-	loss:	0.0164	-	var_loss:	0.0107
Epoch 783/1000 400/400 ————————————————————————————————	– 1c	1mc/ctan	_	1055.	0 015/	_	val loss.	0 0111
Epoch 784/1000	-3	±1113/3 ι ΕΡ	-	1033.	0.0104	-	νατ <u></u> τυ33.	0.0111
400/400 ————	- 1s	1ms/step	-	loss:	0.0170	_	val_loss:	0.0106
							_	

Frank 705 /1000								
Epoch 785/1000 400/400 ————————————————————————————————	. 1c	1mc/ston	_	1000	0 0102		val locc.	0 0112
Epoch 786/1000	13	IIIS/Step	_	1055.	0.0192	_	va1_1055.	0.0112
400/400	- 15	2ms/sten	_	loss:	0.0187	_	val loss:	0.0120
Epoch 787/1000		о, о сер			0.020			0,0==0
400/400 ————	1 s	1ms/step	_	loss:	0.0160	_	val loss:	0.0112
Epoch 788/1000							_	
400/400	1 s	1ms/step	-	loss:	0.0179	-	<pre>val_loss:</pre>	0.0107
Epoch 789/1000								
400/400	1 s	1ms/step	-	loss:	0.0172	-	<pre>val_loss:</pre>	0.0109
Epoch 790/1000				_				
400/400	• 0s	1ms/step	-	loss:	0.0202	-	val_loss:	0.0129
Epoch 791/1000 400/400 ————————————————————————————————	0.0	1mc/c+on		10001	0 0102		val locci	0 0112
Epoch 792/1000	05	Illis/scep	_	1055.	0.0192	-	va1_1055.	0.0112
400/400	95	1ms/sten	_	loss:	0.0155	_	val loss:	0.0117
Epoch 793/1000		о, о сер			0.0255			
400/400 ————	1 s	1ms/step	-	loss:	0.0227	_	val_loss:	0.0104
Epoch 794/1000								
400/400 ————	1 s	1ms/step	-	loss:	0.0159	-	<pre>val_loss:</pre>	0.0116
Epoch 795/1000								
400/400	1 s	1ms/step	-	loss:	0.0141	-	val_loss:	0.0122
Epoch 796/1000 400/400 ————————————————————————————————	1.	1		1	0 0103			0.0100
Epoch 797/1000	. 12	Ims/scep	-	1055:	0.0182	-	val_loss:	0.0108
400/400 —————	05	1ms/sten	_	loss:	0.0179	_	val loss:	0.0108
Epoch 798/1000		о, о сер			0,02,2			0.0200
400/400 ————	0s	1ms/step	-	loss:	0.0163	_	val_loss:	0.0106
Epoch 799/1000								
400/400	0s	1ms/step	-	loss:	0.0166	-	<pre>val_loss:</pre>	0.0115
Epoch 800/1000				_				
400/400	• 0s	1ms/step	-	loss:	0.0139	-	val_loss:	0.0112
Epoch 801/1000 400/400 ———————————————————————————————————	۵c	1mc/cton		1000	0 0166		val locc:	0 0121
Epoch 802/1000	62	IIIS/Step	_	1055.	0.0100	_	va1_1055.	0.0121
400/400 ————	0s	1ms/step	_	loss:	0.0176	_	val loss:	0.0114
Epoch 803/1000		о, о сор						
400/400	1 s	1ms/step	-	loss:	0.0187	-	<pre>val_loss:</pre>	0.0113
Epoch 804/1000								
400/400	1 s	1ms/step	-	loss:	0.0167	-	<pre>val_loss:</pre>	0.0118
Epoch 805/1000				,	0 0445			
400/400 ————————————————————————————————	1s	2ms/step	-	loss:	0.0165	-	val_loss:	0.0114
Epoch 806/1000 400/400 ————————————————————————————————	1 c	2mc/stan	_	1000	0 0156	_	val loss.	0 0123
Epoch 807/1000	13	21113/3CEP	_	1033.	0.0130	_	va1_1033.	0.0123
400/400 ————	1 s	2ms/step	_	loss:	0.0194	_	val loss:	0.0111
Epoch 808/1000		, ,					_	
400/400 —————	1 s	2ms/step	-	loss:	0.0156	-	<pre>val_loss:</pre>	0.0107
Epoch 809/1000								
400/400	1 s	1ms/step	-	loss:	0.0192	-	val_loss:	0.0109
Epoch 810/1000								
400/400 ————————————————————————————————	15	∠ms/step	-	TOSS:	0.0177	-	var_ross:	0.0110
Epoch 811/1000 400/400 ————————————————————————————————	1 c	1mc/c+on	_	1000	0 0155	_	val locc.	0 0110
Epoch 812/1000	13	-m3/3 ιερ	_	1033.	0.0100	_	4u1_1033.	0.0113
400/400	1 s	1ms/sten	_	loss:	0.0167	_	val loss:	0.0109
,		, эсер			5.5207			3.0203

Enach 913/1000	
Epoch 813/1000	- 1s 2ms/step - loss: 0.0130 - val_loss: 0.0112
Epoch 814/1000	13 2m3/3ccp 1033. 0.0130 Vai_1033. 0.0112
	- 1s 2ms/step - loss: 0.0162 - val_loss: 0.0108
Epoch 815/1000	,,
400/400	<pre>- 1s 2ms/step - loss: 0.0156 - val_loss: 0.0106</pre>
Epoch 816/1000	
400/400 ————	— 1s 2ms/step - loss: 0.0168 - val_loss: 0.0112
Epoch 817/1000	
	<pre>- 1s 2ms/step - loss: 0.0187 - val_loss: 0.0106</pre>
Epoch 818/1000	4- 4/
400/400 ———————————————————————————————————	- 1s 1ms/step - loss: 0.0145 - val_loss: 0.0119
•	- 1s 1ms/step - loss: 0.0176 - val_loss: 0.0109
Epoch 820/1000	13 1m3/3ccp 1033. 0.01/0 vai_1033. 0.0103
•	- 1s 2ms/step - loss: 0.0165 - val_loss: 0.0111
Epoch 821/1000	_
400/400 —————	<pre>- 1s 1ms/step - loss: 0.0176 - val_loss: 0.0112</pre>
Epoch 822/1000	
	— 1s 2ms/step - loss: 0.0171 - val_loss: 0.0110
Epoch 823/1000	4 0 / 1 0 0405 1 1 0 0445
	<pre>- 1s 2ms/step - loss: 0.0196 - val_loss: 0.0115</pre>
Epoch 824/1000 400/400 ————————————————————————————————	- 1s 1ms/step - loss: 0.0172 - val_loss: 0.0129
Epoch 825/1000	— 15 11115/Step - 1055. 0.01/2 - Val_1055. 0.0129
•	- 1s 2ms/step - loss: 0.0150 - val_loss: 0.0112
Epoch 826/1000	,,
400/400	<pre>- 1s 2ms/step - loss: 0.0160 - val_loss: 0.0113</pre>
Epoch 827/1000	
	— 1s 2ms/step - loss: 0.0148 - val_loss: 0.0135
Epoch 828/1000	
	<pre>- 1s 1ms/step - loss: 0.0198 - val_loss: 0.0114</pre>
Epoch 829/1000	- 1s 1ms/step - loss: 0.0176 - val_loss: 0.0113
Epoch 830/1000	— 15 11115/Step - 1055. 0.01/0 - Val_1055. 0.0115
	- 1s 1ms/step - loss: 0.0157 - val_loss: 0.0108
Epoch 831/1000	
-	<pre>- 1s 1ms/step - loss: 0.0154 - val_loss: 0.0107</pre>
Epoch 832/1000	
	— 1s 1ms/step - loss: 0.0155 - val_loss: 0.0108
Epoch 833/1000	
	<pre>- 1s 1ms/step - loss: 0.0190 - val_loss: 0.0110</pre>
Epoch 834/1000	- 1s 1ms/step - loss: 0.0156 - val_loss: 0.0138
Epoch 835/1000	— 15 1ms/step - 10ss. 0.0150 - Val_10ss. 0.0150
	- 1s 1ms/step - loss: 0.0183 - val_loss: 0.0114
Epoch 836/1000	
•	<pre>- 1s 1ms/step - loss: 0.0166 - val_loss: 0.0116</pre>
Epoch 837/1000	
400/400 ————	— 1s 1ms/step - loss: 0.0162 - val_loss: 0.0112
Epoch 838/1000	
	<pre>- 1s 1ms/step - loss: 0.0181 - val_loss: 0.0111</pre>
Epoch 839/1000	— 1c 1mc/cton local 0 0100]] 0 0107
Epoch 840/1000	- 1s 1ms/step - loss: 0.0186 - val_loss: 0.0107
-	- 1s 1ms/step - loss: 0.0163 - val_loss: 0.0107
100/ 100	13 1113/300p 1033. 0.0103 - Vai_1033. 0.010/

Fnoch 941/1000								
Epoch 841/1000 400/400 ————————————————————————————————	- 1c	1ms/sten	_	1000	0 0185	_	val loss.	a a1a7
Epoch 842/1000	13	тіііз/ эсер		1033.	0.0103		va1_1033.	0.0107
400/400 —————	- 1s	1ms/step	_	loss:	0.0150	_	val loss:	0.0118
Epoch 843/1000		-,					_	
400/400	- 1s	1ms/step	-	loss:	0.0182	-	val_loss:	0.0114
Epoch 844/1000								
400/400	- 1s	1ms/step	-	loss:	0.0173	-	<pre>val_loss:</pre>	0.0119
Epoch 845/1000								
400/400	- 1s	1ms/step	-	loss:	0.0154	-	val_loss:	0.0111
Epoch 846/1000	4.	1		1	0 0175			0 0121
400/400 Epoch 847/1000	15	ıms/step	-	1088:	0.01/5	-	vai_ioss:	0.0121
400/400	- 1c	1ms/sten	_	1055.	0 0144	_	val loss.	a a114
Epoch 848/1000	13	тіііз/ эсер		1033.	0.0144		va1_1033.	0.0114
400/400 —————	- 1s	1ms/step	_	loss:	0.0175	_	val loss:	0.0110
Epoch 849/1000		, ,					_	
400/400	- 1s	1ms/step	-	loss:	0.0153	-	<pre>val_loss:</pre>	0.0108
Epoch 850/1000								
400/400 ————	- 1s	1ms/step	-	loss:	0.0178	-	<pre>val_loss:</pre>	0.0117
Epoch 851/1000	_			,	0 0101			
400/400 ————————————————————————————————	- 1s	1ms/step	-	loss:	0.0181	-	val_loss:	0.010/
Epoch 852/1000 400/400 ————————————————————————————————	1 c	1mc/stan	_	1000	0 0174	_	val_loss:	0 0111
Epoch 853/1000	13	Illis/scep	_	1033.	0.0174	_	va1_1033.	0.0111
400/400 —————	- 1s	2ms/step	_	loss:	0.0191	_	val loss:	0.0108
Epoch 854/1000								
400/400	- 1s	2ms/step	-	loss:	0.0138	-	val_loss:	0.0110
Epoch 855/1000								
400/400	- 1s	2ms/step	-	loss:	0.0188	-	<pre>val_loss:</pre>	0.0105
Epoch 856/1000				_				
400/400	- 1s	1ms/step	-	loss:	0.0179	-	val_loss:	0.0103
Epoch 857/1000 400/400 ————————————————————————————————	16	1mc/cton		1000	0 0106		val locc:	0 0104
Epoch 858/1000	13	Illis/step	_	1055.	0.0190	-	va1_1055.	0.0104
400/400 —————	- 1s	1ms/step	_	loss:	0.0151	_	val loss:	0.0116
Epoch 859/1000								
400/400	- 1s	1ms/step	-	loss:	0.0162	-	val_loss:	0.0109
Epoch 860/1000								
400/400	1 s	1ms/step	-	loss:	0.0143	-	<pre>val_loss:</pre>	0.0113
Epoch 861/1000	_							
400/400 ————————————————————————————————	- 1s	1ms/step	-	loss:	0.0170	-	val_loss:	0.0114
Epoch 862/1000 400/400 ————————————————————————————————	16	1mc/cton		1000	0 01/12		val locc:	0 0115
Epoch 863/1000	13	Illis/step	_	1055.	0.0142	-	va1_1055.	0.0113
400/400 ————	- 1s	1ms/step	_	loss:	0.0151	_	val loss:	0.0114
Epoch 864/1000		, 5 ccp			0.0252			
•	- 1s	1ms/step	-	loss:	0.0159	-	val_loss:	0.0110
Epoch 865/1000								
400/400 ————	- 1s	1ms/step	-	loss:	0.0173	-	<pre>val_loss:</pre>	0.0116
Epoch 866/1000								
400/400	- 1s	1ms/step	-	loss:	0.0131	-	val_loss:	0.0119
Epoch 867/1000	_ 1-	1mc/c+==		1000	0 0105		val 1655:	0 0115
400/400 ———————————————————————————————————	_ 12	TIIIS/STep	-	TOSS:	9.6195	-	AaT_TO22:	9.0115
400/400	- 1¢	2ms/sten	_	1055.	0.0172	_	val loss.	0.0110
100/ 100	13	21113/3CEP	-	1033.	0.01/2	_	vu1033.	0.0110

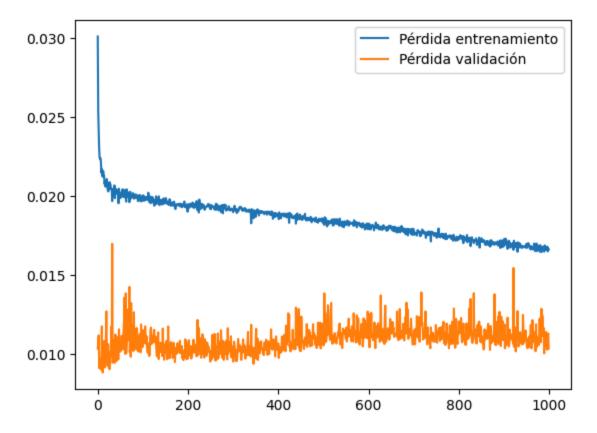
Frank 960/1000								
Epoch 869/1000 400/400 ————————————————————————————————	_ 1c	1mc/cton		1000	0 0102		val locc:	0 0112
Epoch 870/1000	13	Illis/step	-	1055.	0.0102	-	va1_1055.	0.0113
400/400 ————	- 1s	1ms/sten	_	1055.	0 0148	_	val loss:	0 0103
Epoch 871/1000		23, 3 ccp		1033.	0.01.0		·u1_1055.	0.0103
400/400 ————	- 1s	1ms/step	_	loss:	0.0132	_	val loss:	0.0118
Epoch 872/1000							_	
400/400	- 1s	1ms/step	-	loss:	0.0142	-	<pre>val_loss:</pre>	0.0118
Epoch 873/1000								
	- 1s	1ms/step	-	loss:	0.0194	-	<pre>val_loss:</pre>	0.0107
Epoch 874/1000								
400/400	- 1s	1ms/step	-	loss:	0.0171	-	val_loss:	0.0111
Epoch 875/1000	1.	1		1	0 0151			0 0110
400/400 ————————————————————————————————	- 15	ıms/step	-	1055:	0.0151	-	var_ross:	0.0110
Epoch 876/1000 400/400 ————————————————————————————————	– 1c	1mc/stan	_	1000	0 0182	_	val locc.	0 0108
Epoch 877/1000	13	Illis/scep	_	1033.	0.0102	_	va1_1033.	0.0108
400/400 ————	- 1s	1ms/step	_	loss:	0.0185	_	val loss:	0.0108
Epoch 878/1000		·,P		•				
400/400	- 1s	1ms/step	-	loss:	0.0187	-	val_loss:	0.0109
Epoch 879/1000								
400/400	- 1s	1ms/step	-	loss:	0.0196	-	<pre>val_loss:</pre>	0.0117
Epoch 880/1000								
	- 1s	1ms/step	-	loss:	0.0144	-	val_loss:	0.0138
Epoch 881/1000	4	2		1	0 0171			0 0107
400/400 ———————————————————————————————————	- 15	2ms/step	-	1055:	0.01/1	-	var_ross:	0.0107
400/400	– 1c	2mc/stan	_	1000	0 0171	_	val locc.	0 0106
Epoch 883/1000	13	21113/3CEP		1033.	0.01/1		va1_1033.	0.0100
400/400 ————	- 1s	2ms/step	_	loss:	0.0198	_	val loss:	0.0110
Epoch 884/1000		, ,					_	
400/400	- 1s	2ms/step	-	loss:	0.0207	-	<pre>val_loss:</pre>	0.0106
Epoch 885/1000								
400/400 ————	- 1s	1ms/step	-	loss:	0.0167	-	<pre>val_loss:</pre>	0.0120
Epoch 886/1000				_				
400/400 ————————————————————————————————	- 1s	1ms/step	-	loss:	0.0182	-	val_loss:	0.0109
Epoch 887/1000 400/400 ————————————————————————————————	_ 1c	1mc/cton		1000	0 0125		val locc:	0 0112
Epoch 888/1000	13	Illis/scep	-	1055.	0.0133	-	va1_1055.	0.0113
400/400	- 1s	1ms/step	_	loss:	0.0157	_	val loss:	0.0108
Epoch 889/1000		, 5 ccp			0.000			0.0200
400/400 ————	- 1s	1ms/step	-	loss:	0.0155	-	val_loss:	0.0124
Epoch 890/1000								
400/400	- 1s	1ms/step	-	loss:	0.0153	-	<pre>val_loss:</pre>	0.0106
Epoch 891/1000								
400/400	- 1s	1ms/step	-	loss:	0.0153	-	val_loss:	0.0127
Epoch 892/1000	4 -	4 / 1		,	0 0437			0 0447
	- 1s	1ms/step	-	loss:	0.013/	-	val_loss:	0.011/
Epoch 893/1000 400/400 ————————————————————————————————	1 c	1mc/stan	_	1000	0 0152	_	val locc.	0 0113
Epoch 894/1000	13	±1113/3 ceβ	-	1022.	0.0132	-	var_1022.	0.0113
•	- 1s	1ms/sten	_	loss:	0.0211	_	val_loss:	0.0105
Epoch 895/1000		3, 200p						
400/400 —————	- 1s	1ms/step	-	loss:	0.0157	-	val_loss:	0.0124
Epoch 896/1000		·						
400/400	- 1s	1ms/step	-	loss:	0.0171	-	<pre>val_loss:</pre>	0.0112

Frack 907/1000	
Epoch 897/1000	- 1s 2ms/step - loss: 0.0157 - val_loss: 0.0112
Epoch 898/1000	13 2m3/3ccp 1033. 0.013/ Vai_1033. 0.0112
	- 1s 1ms/step - loss: 0.0146 - val_loss: 0.0121
Epoch 899/1000	,,
•	- 1s 1ms/step - loss: 0.0171 - val_loss: 0.0109
Epoch 900/1000	
400/400	<pre>- 1s 1ms/step - loss: 0.0160 - val_loss: 0.0114</pre>
Epoch 901/1000	
	<pre>- 1s 1ms/step - loss: 0.0124 - val_loss: 0.0109</pre>
Epoch 902/1000	4- 4/
Epoch 903/1000	- 1s 1ms/step - loss: 0.0190 - val_loss: 0.0119
-	- 1s 1ms/step - loss: 0.0168 - val_loss: 0.0104
Epoch 904/1000	13 1m3/3tep - 1033. 0.0100 - vai_1033. 0.0104
•	- 1s 1ms/step - loss: 0.0158 - val_loss: 0.0112
Epoch 905/1000	_
400/400 ————	<pre>- 1s 1ms/step - loss: 0.0134 - val_loss: 0.0110</pre>
Epoch 906/1000	
	- 1s 1ms/step - loss: 0.0165 - val_loss: 0.0105
Epoch 907/1000	
	<pre>- 1s 1ms/step - loss: 0.0144 - val_loss: 0.0110</pre>
Epoch 908/1000 400/400 ————————————————————————————————	- 1s 1ms/step - loss: 0.0169 - val_loss: 0.0109
Epoch 909/1000	- 13 11115/Step - 1055. 0.0109 - Val_1055. 0.0109
•	- 1s 1ms/step - loss: 0.0198 - val_loss: 0.0123
Epoch 910/1000	
400/400	<pre>- 1s 1ms/step - loss: 0.0144 - val_loss: 0.0111</pre>
Epoch 911/1000	
	- 1s 1ms/step - loss: 0.0132 - val_loss: 0.0107
Epoch 912/1000	
	- 1s 1ms/step - loss: 0.0156 - val_loss: 0.0105
Epoch 913/1000	- 1s 1ms/step - loss: 0.0181 - val_loss: 0.0107
Epoch 914/1000	13 1m3/3tep - 1033. 0.0101 - vai_1033. 0.010/
	- 1s 1ms/step - loss: 0.0193 - val_loss: 0.0115
Epoch 915/1000	_
400/400 ————	- 1s 1ms/step - loss: 0.0140 - val_loss: 0.0110
Epoch 916/1000	
	<pre>- 1s 1ms/step - loss: 0.0162 - val_loss: 0.0112</pre>
Epoch 917/1000	4.4 () 2 0 0440
Epoch 918/1000	- 1s 1ms/step - loss: 0.0149 - val_loss: 0.0112
	- 1s 1ms/step - loss: 0.0171 - val_loss: 0.0109
Epoch 919/1000	13 1m3/3ccp 1033. 0.01/1 vai_1033. 0.0103
•	- 1s 1ms/step - loss: 0.0149 - val_loss: 0.0109
Epoch 920/1000	· –
400/400	- 1s 1ms/step - loss: 0.0156 - val_loss: 0.0113
Epoch 921/1000	
	<pre>- 1s 1ms/step - loss: 0.0160 - val_loss: 0.0107</pre>
Epoch 922/1000	4.4 () 3 0 0440 3 1 1 0 0454
400/400 ————————————————————————————————	- 1s 1ms/step - loss: 0.0140 - val_loss: 0.0154
	- 1s 1ms/step - loss: 0.0164 - val_loss: 0.0105
Epoch 924/1000	25 1m3/300p 1033. 0.0104 - Vai_1033. 0.0103
•	- 1s 1ms/step - loss: 0.0168 - val_loss: 0.0112
•	, , , , , , , , , , , , , , , , , , , ,

Fresh 025/1000								
Epoch 925/1000 400/400 ————————————————————————————————	– 1c	1mc/ston		1000	0 0190	_	val locc.	0 0111
Epoch 926/1000	13	III3/3cep	_	1033.	0.0100	_	vai_1033.	0.0111
400/400 ————	– 1s	1ms/sten	_	loss:	0.0154	_	val loss:	0.0116
Epoch 927/1000		тэ, эсер		1033.	0.013.		·u1_1055.	0.0110
400/400	– 1s	1ms/step	_	loss:	0.0163	_	val loss:	0.0102
Epoch 928/1000							_	
400/400	– 1s	1ms/step	-	loss:	0.0153	-	<pre>val_loss:</pre>	0.0112
Epoch 929/1000								
	- 1s	1ms/step	-	loss:	0.0175	-	<pre>val_loss:</pre>	0.0117
Epoch 930/1000								
400/400	– 1s	1ms/step	-	loss:	0.0185	-	val_loss:	0.0111
Epoch 931/1000	4.	1/-+		1	0.0155		1 1	0 0127
400/400 ————————————————————————————————	– 15	ıms/step	-	1055:	0.0155	-	var_ross:	0.0127
Epoch 932/1000 400/400 ————————————————————————————————	– 1c	1mc/ston		1000	0 0176	_	val locc.	0 0112
Epoch 933/1000	13	III3/3Cep	_	1033.	0.0170	_	va1_1033.	0.0112
400/400 ————	– 1s	1ms/step	_	loss:	0.0189	_	val loss:	0.0105
Epoch 934/1000								
400/400	- 1s	2ms/step	-	loss:	0.0190	-	val_loss:	0.0106
Epoch 935/1000								
400/400	- 1s	2ms/step	-	loss:	0.0177	-	<pre>val_loss:</pre>	0.0108
Epoch 936/1000								
	– 1s	1ms/step	-	loss:	0.0162	-	val_loss:	0.0111
Epoch 937/1000	4.	1/-+		1	0.0150			0 0114
400/400 ———————————————————————————————————	– 15	ıms/step	-	1055:	0.0159	-	var_ross:	0.0114
400/400	– 1c	1mc/ston	_	1000	a a192	_	val locc.	a a1a9
Epoch 939/1000	13	тіііз/ з сер		1033.	0.0152		va1_1033.	0.0103
400/400 ————	– 1s	1ms/step	_	loss:	0.0155	_	val loss:	0.0111
Epoch 940/1000							_	
400/400	- 1s	1ms/step	-	loss:	0.0157	-	<pre>val_loss:</pre>	0.0106
Epoch 941/1000								
400/400	- 1s	1ms/step	-	loss:	0.0165	-	val_loss:	0.0110
Epoch 942/1000	4.	4 / 1		,	0 0161			0 0106
400/400 ————————————————————————————————	– 1s	1ms/step	-	loss:	0.0161	-	var_ross:	0.0106
Epoch 943/1000 400/400 ————————————————————————————————	– 1c	1mc/cton	_	1000	0 0158	_	val locc.	0 0125
Epoch 944/1000	13	III3/3Cep	_	1033.	0.0138	_	va1_1033.	0.0123
400/400 ————	– 1s	1ms/step	_	loss:	0.0158	_	val loss:	0.0117
Epoch 945/1000		о, о оор						
400/400	- 1s	1ms/step	-	loss:	0.0172	-	val_loss:	0.0107
Epoch 946/1000								
400/400	- 1s	2ms/step	-	loss:	0.0196	-	<pre>val_loss:</pre>	0.0112
Epoch 947/1000								
400/400	– 1s	1ms/step	-	loss:	0.0159	-	val_loss:	0.0109
Epoch 948/1000	4.	4 / 1		,	0.0450			0 0111
400/400 ———————————————————————————————————	– 1s	1ms/step	-	loss:	0.0152	-	val_loss:	0.0111
400/400	– 1c	1mc/ston		1000	0 0163	_	val locc.	0 0115
Epoch 950/1000	13	тіііз/ з сер		1033.	0.0103		va1_1033.	0.0113
400/400 ————	– 1s	1ms/sten	_	loss:	0.0184	_	val loss:	0.0108
Epoch 951/1000	_	, r		- •			_	
400/400	– 1s	1ms/step	-	loss:	0.0159	-	val_loss:	0.0108
Epoch 952/1000								
400/400 ————	– 1s	1ms/step	-	loss:	0.0213	-	<pre>val_loss:</pre>	0.0104

Epoch 953/1000								
400/400	1ς	1ms/sten	_	loss.	0 0194	_	val loss:	0 0107
Epoch 954/1000		тшэ, эсср		1033.	0.0134		va1_1055.	0.0107
400/400 ————	1 s	1ms/step	_	loss:	0.0155	_	val loss:	0.0106
Epoch 955/1000		·					_	
400/400	1 s	1ms/step	-	loss:	0.0186	-	<pre>val_loss:</pre>	0.0110
Epoch 956/1000								
400/400	1 s	1ms/step	-	loss:	0.0147	-	val_loss:	0.0104
Epoch 957/1000 400/400 ————————————————————————————————	1.	1mc/ston		10001	0.0164		val lassi	0 0111
Epoch 958/1000	12	Ims/scep	-	1055:	0.0164	-	va1_1055:	0.0111
400/400 ————	1s	1ms/step	_	loss:	0.0151	_	val loss:	0.0108
Epoch 959/1000		, ,					_	
400/400 ————	1 s	1ms/step	-	loss:	0.0154	-	<pre>val_loss:</pre>	0.0106
Epoch 960/1000								
400/400	1 s	1ms/step	-	loss:	0.0151	-	val_loss:	0.0118
Epoch 961/1000	4.	1/-+		1	0 0140			0 0110
400/400 ———————————————————————————————————	15	ıms/step	-	1055:	0.0140	-	vai_ioss:	0.0118
400/400 —————	15	1ms/sten	_	loss:	0.0190	_	val loss:	0.0104
Epoch 963/1000		о, о оор						
400/400 ————	1 s	1ms/step	-	loss:	0.0181	-	<pre>val_loss:</pre>	0.0107
Epoch 964/1000								
400/400	1 s	1ms/step	-	loss:	0.0144	-	val_loss:	0.0121
Epoch 965/1000 400/400 ————————————————————————————————	1.0	1mc/c+on		10001	0 0155		val_loss:	0 0112
Epoch 966/1000	12	IIIS/Step	-	1055.	0.0155	-	va1_1055.	0.0113
400/400 ————	1s	1ms/step	_	loss:	0.0150	_	val loss:	0.0108
Epoch 967/1000		, ,					_	
400/400	1 s	1ms/step	-	loss:	0.0167	-	<pre>val_loss:</pre>	0.0112
Epoch 968/1000				_				
400/400 ———————————————————————————————————	15	1ms/step	-	loss:	0.0164	-	val_loss:	0.0114
400/400	15	1ms/sten	_	loss:	0.0179	_	val loss:	0.0107
Epoch 970/1000		тэ, эсср		1055.	0.01,3		·u1_1033.	0.0107
400/400	1 s	1ms/step	-	loss:	0.0175	-	val_loss:	0.0106
Epoch 971/1000								
400/400	1 s	1ms/step	-	loss:	0.0168	-	val_loss:	0.0102
Epoch 972/1000 400/400 ————————————————————————————————	1.	1ms /s+on		10001	0.0160		val lassi	0 0110
Epoch 973/1000	12	ıms/scep	-	1055;	0.0108	-	va1_1055:	0.0119
400/400	1s	1ms/step	_	loss:	0.0179	_	val loss:	0.0104
Epoch 974/1000		, ,					_	
400/400	1 s	1ms/step	-	loss:	0.0179	-	<pre>val_loss:</pre>	0.0111
Epoch 975/1000								
400/400	1s	1ms/step	-	loss:	0.0155	-	val_loss:	0.0109
Epoch 976/1000 400/400 ————————————————————————————————	1 c	1mc/cton		1000	0 0155	_	val loss:	0 0106
Epoch 977/1000	13	11113/3CEP	_	1033.	0.0133	_	va1_1033.	0.0100
400/400 ————	1 s	1ms/step	_	loss:	0.0153	-	val_loss:	0.0109
Epoch 978/1000		·					_	
400/400	1 s	1ms/step	-	loss:	0.0158	-	<pre>val_loss:</pre>	0.0106
Epoch 979/1000	_	4		1.	0.04=0			0 0444
400/400 ———————————————————————————————————	15	ıms/step	-	TOSS:	158ء ہ	-	var_ross:	0.0111
400/400 ————————————————————————————————	15	1ms/sten	_	loss	0.0169	_	val loss:	0.0122
100, 400		-m3/ 3 ccp		1033.	3.0103		1033.	3.0122

```
Epoch 981/1000
        400/400
                                    - 1s 1ms/step - loss: 0.0147 - val_loss: 0.0110
        Epoch 982/1000
        400/400
                                     1s 1ms/step - loss: 0.0146 - val_loss: 0.0109
        Epoch 983/1000
        400/400
                                    - 1s 1ms/step - loss: 0.0159 - val_loss: 0.0107
        Epoch 984/1000
        400/400
                                    - 1s 1ms/step - loss: 0.0134 - val_loss: 0.0129
        Epoch 985/1000
                                     1s 1ms/step - loss: 0.0180 - val_loss: 0.0112
        400/400
        Epoch 986/1000
                                    - 1s 1ms/step - loss: 0.0142 - val_loss: 0.0124
        400/400
        Epoch 987/1000
        400/400
                                     1s 1ms/step - loss: 0.0163 - val_loss: 0.0118
        Epoch 988/1000
                                    • 1s 2ms/step - loss: 0.0165 - val_loss: 0.0111
        400/400
        Epoch 989/1000
        400/400
                                    - 1s 1ms/step - loss: 0.0170 - val_loss: 0.0116
        Epoch 990/1000
        400/400
                                    - 1s 1ms/step - loss: 0.0173 - val_loss: 0.0100
        Epoch 991/1000
        400/400
                                     1s 1ms/step - loss: 0.0156 - val_loss: 0.0104
        Epoch 992/1000
                                    • 1s 1ms/step - loss: 0.0179 - val_loss: 0.0109
        400/400
        Epoch 993/1000
        400/400
                                    - 1s 1ms/step - loss: 0.0145 - val_loss: 0.0105
        Epoch 994/1000
        400/400
                                     1s 1ms/step - loss: 0.0141 - val_loss: 0.0114
        Epoch 995/1000
        400/400
                                     1s 1ms/step - loss: 0.0143 - val_loss: 0.0110
        Epoch 996/1000
        400/400
                                     1s 1ms/step - loss: 0.0164 - val_loss: 0.0107
        Epoch 997/1000
                                    1s 1ms/step - loss: 0.0162 - val_loss: 0.0103
        400/400
        Epoch 998/1000
                                    - 1s 1ms/step - loss: 0.0159 - val_loss: 0.0111
        400/400
        Epoch 999/1000
        400/400
                                     1s 1ms/step - loss: 0.0181 - val_loss: 0.0113
        Epoch 1000/1000
        400/400
                                     1s 1ms/step - loss: 0.0162 - val_loss: 0.0104
In [11]: #? Graficar pérdida
         plt.plot(history.history['loss'], label='Pérdida entrenamiento')
         plt.plot(history.history['val_loss'], label='Pérdida validación')
         plt.legend()
         plt.show()
```



In [12]: # Predicción final para verificar funcionamiento
 predictions = model.predict(X_test)
 predictions = scaler.inverse_transform(predictions)
4/4 ________ 0s 35ms/step