Pr7. Кобенко Влад 8382. Вар.8

Вар.:

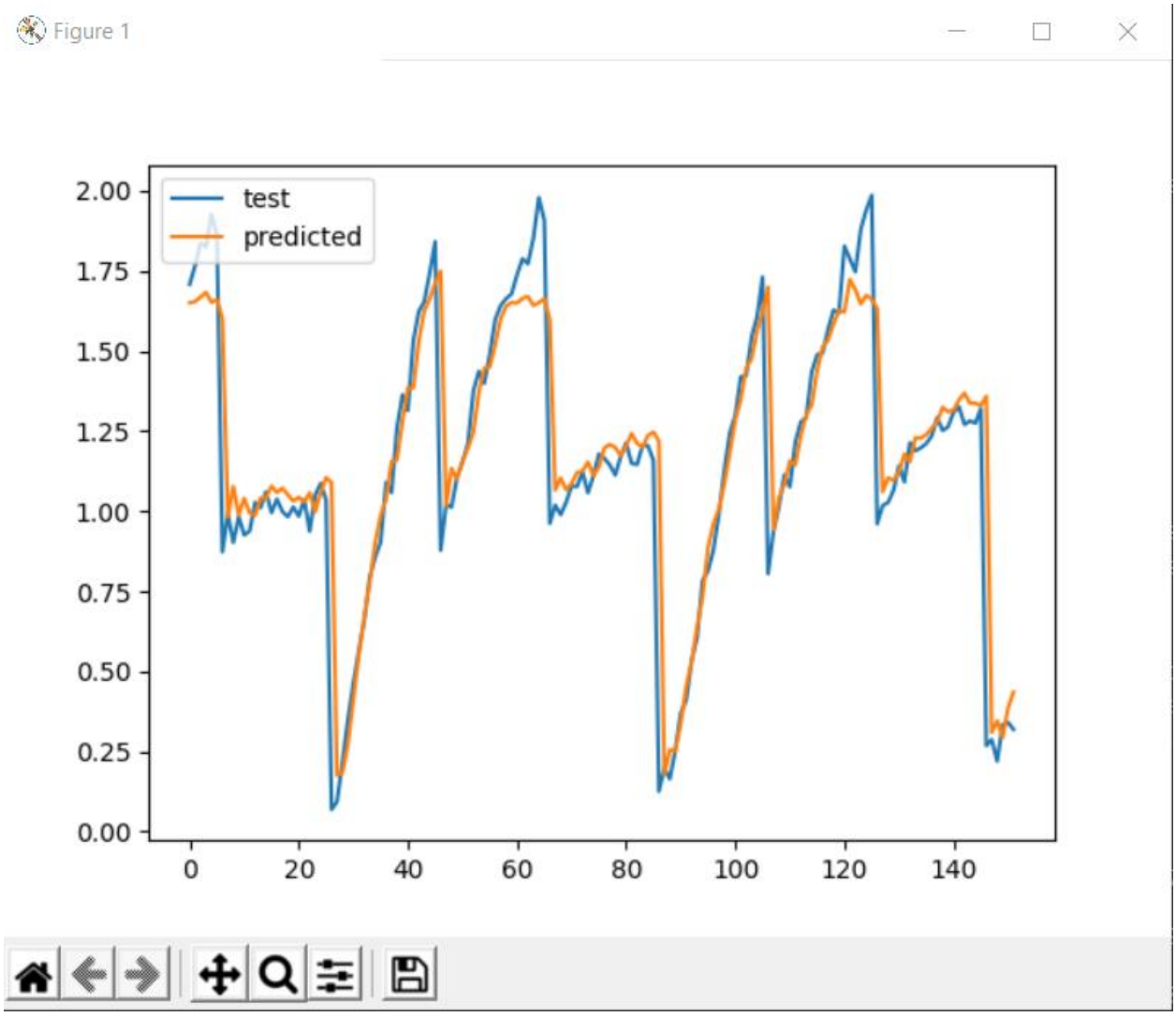
```python
def func(i):
    return ((i % 20) + 1) / 20

def gen_sequence(seq_len = 1000):
    seq = [abs(math.sin(i/20)) + func(i) + random.normalvariate(0, 0.04) for i in range(seq_len)]
    return np.array(seq)

def draw_sequence():
    seq = gen_sequence(250)
    plt.plot(range(len(seq)),seq)
    plt.show()

#draw_sequence()
```

График работы программы:



Модель:

```
model = Sequential()
model.add(layers.GRU(128,recurrent_activation='sigmoid',input_shape=(None,1),return_sequences=True))
model.add(layers.LSTM(128,activation='relu',input_shape=(None,1),return_sequences=True,dropout=0.4))
model.add(layers.GRU(32,input_shape=(None,1),recurrent_dropout=0.2))
model.add(layers.Dense(1))

model.compile(optimizer='nadam', loss='mse')
history = model.fit(train_data,train_res,epochs=50,validation_data=(val_data, val_res))
```