<p style="text-align:center">SchoolNova Computer Science 201
Homework 2-6-2022</p>

Save your code as lastname_homework.py and submit on Google Classroom.

Task 1

We continue working with the puzzle.csv. If you have not done this previously, download the file as a numpy array. Use class code, if necessary.

Using the class code, examine the accuracy of the SVC model for different history values (from 1 to 4). Which history value has the best accuracy? What does it mean? (You can write your response in your code using comments).

Task 2

Explore the following code. What does it do?

```
disp = metrics.plot_confusion_matrix(clf, X_test, y_test)
disp.figure_.suptitle("Confusion Matrix")
print(f"Confusion matrix:\n{disp.confusion_matrix}")
plt.show()
```

Task 3

Using the best version of the model (from Task 1), display the identified patterns. Hint: use clf.predict(X) to display all possible patterns (where X is a possible history). You can use a for loop to cycle through all possible histories. (Or you can use a 2D numpy array if you are up for a challenge – in this case, X would represent all possible histories).