Data Science and AI
Mini Project - Individual
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Link to the Github:
https://github.com/Eragon783/PythonIndividualProject
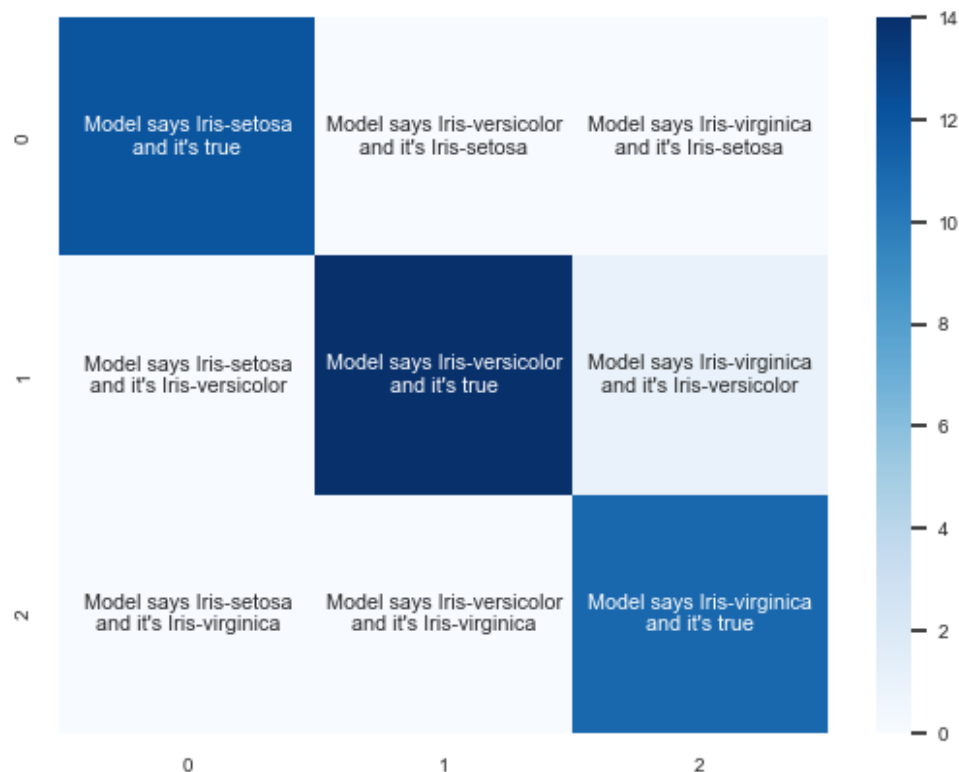

First solution: IRIS Flower

I used the **SVM algorithm** as requested in the statement to build my model because this is the one we use in class.

To improve the model performance, I choose a test size of **0.25** because it improves the score of the model. Moreover, I test several value for the hyper-parameter:
- **kernel**: I try different values of the kernel type to be used in the model : "rbf" (the default value) and "linear" (the value we use I class)
- **C**: same find for the regularization parameter, I try 1, 10, 100 and 1000

Finally, the model has a very good score of **0.973**. Here is the confusion matrix:

$$[[12 \ 0 \ 0]$$
$$[\ 0 \ 14 \ 1]$$
$$[\ 0 \ 0 \ 11]]$$

Second solution: Titanic

I used the **logistic regression algorithm** as requested in the statement to build my model.

To improve the model performance, I choose a test size of **0.25** like before and for the same reasons. Again, I test several value for the hyper-parameter:
- **solver**: I try different values for the algorithm to use in the optimization problem : "lbfgs" (the default value) and "liblinear" (the value we use I class)
- **C**: same find for the regularization parameter, I try 1, 10, 100 and 1000

Finally, the model has a good score of **0.848**. Here is the confusion matrix :

```
[[12  0  0]
 [ 0 14  1]
 [ 0  0 11]]
```