**Task # 5**

**Data:**

https://drive.google.com/drive/folders/1nzVk4GOvKR6P87uPszUkKMPtaXV\_wrZf?usp=sharing

Fill all the necessary gaps in **CNN\_and\_Transfer\_Learning.ipynb** and fit neural networks for solving the binary classification task.

**Part 1:**

1. Build and fit CNN with 3 convolutional layers for binary classification

2. Evaluate accuracy on test data

3. Plot the graphs for Loss(number\_of\_epochs) and Accuracy(number\_of\_epochs)

**Part 2**

1. Build and fit Transfer Learning model using pre-trained **VGG16-model** weights from keras application.

2. Do the same with **one more** avaliable pre-trained deep learning model from keras application, for example Xception - https://keras.io/api/applications/.

2. Evaluate accuracy on test data for p.1 and p.2

3. Plot the graphs for Loss(number\_of\_epochs) and Accuracy(number\_of\_epochs)

4. Check the performance of your model with **the custom image of cat or dog** (so the model will tell which class this image belongs to). Develop the function for the inference of the best algorithm.