Guide for converting PASCAL VOC formatted datasets to COCO datasets

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Document most recent update: September 24, 2019

1. **Collect PASCAL VOC dataset**

For this tutorial the card dataset found at EdjeElectronics is used, however any dataset in this format should work. We are just interested in the image and annotation files. They can also be downloaded here, along with everything else needed in this tutorial:
https://github.com/howl0893/custom-object-detection-datasets

2. **Create class labels.txt file**

Create a new text file and input each class name of your dataset separated by a space or new line. In the case of the card dataset, a new text file named 'labels.txt' was created to contain:

```
ace
king
queen
jack
ten
Nine
```

3. **Create test.txt and train.txt annotation files**

- ➢ Open test_labels.csv and train_labels.csv
- ➢ Create two new text files named 'test-ext.txt' and 'train-ext.txt'
- ➢ Copy the contents of the first column in each csv file omitting the first row and paste into respective text file.
- ➢ Run clean-up.py script on both files to get rid of the extension of each file name. Open Anaconda prompt and input the following commands:

```
cd desktop/custom-object-detection-datasets/python
python clean-up.py
```

4. **Run voc2coco.py script**

This python script is provided by yukkyo's GitHub.
To run the script open the Anaconda prompt and input the following commands:

```
cd desktop/custom-object-detection-datasets/python
python voc2coco.py --ann_dir ../datasets/cards/images/test --ann_ids
../datasets/cards/test.txt --labels ../datasets/cards/labels.txt
--output ../datasets/cards/annotations/coco_instances_cards-test.json
--ext xml
```

Also do this for the train set of images and xml files. Once completed, open the data_info_cards.json file, copy the entirety of its content, and paste it to the start of both coco_instance files. The files are now complete COCO annotation files, feel free to change the data info content however you see fit.