

Required libraries

```
[ ] import numpy as np
import tensorflow as tf
from tensorflow.keras.layers import Dense, Flatten
from tensorflow.keras.preprocessing.image import ImageDataGenerator
from tensorflow.keras.applications.xception import Xception
```

```
[ ] ! pip install kaggle
```

```
Looking in indexes: https://pypi.org/simple, https://us-python.pkg.dev/colab-wheels/public/simple/
Requirement already satisfied: kaggle in /usr/local/lib/python3.7/dist-packages (1.5.12)
Requirement already satisfied: python-dateutil in /usr/local/lib/python3.7/dist-packages (from kaggle) (2.8.2)
Requirement already satisfied: tqdm in /usr/local/lib/python3.7/dist-packages (from kaggle) (4.64.1)
Requirement already satisfied: certifi in /usr/local/lib/python3.7/dist-packages (from kaggle) (2022.9.24)
Requirement already satisfied: aiohttp in /usr/local/lib/python3.7/dist-packages (from kaggle) (1.15.0)
Requirement already satisfied: requests in /usr/local/lib/python3.7/dist-packages (from kaggle) (2.23.0)
Requirement already satisfied: urllib3 in /usr/local/lib/python3.7/dist-packages (from kaggle) (1.24.3)
Requirement already satisfied: python-slugify in /usr/local/lib/python3.7/dist-packages (from kaggle) (6.1.2)
Requirement already satisfied: text-unidecode>=1.3 in /usr/local/lib/python3.7/dist-packages (from python-slugify->kaggle) (1.3)
Requirement already satisfied: chardet4,>=3.0.2 in /usr/local/lib/python3.7/dist-packages (from requests->kaggle) (3.0.4)
Requirement already satisfied: idna<3,>=2.5 in /usr/local/lib/python3.7/dist-packages (from requests->kaggle) (2.10)
```

Connecting to kaggle dataset

Uploading the kaggle.json API file

```
[ ] from google.colab import files
files.upload()
```

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Uploading the kaggle.json API file

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[ ] from google.colab import files
files.upload()
```

No file chosen Upload widget is only available when the cell has been executed in the current browser session. Please rerun this cell to enable.
Saving kaggle.json to kaggle.json
{'kaggle.json': b'{"username":"keerthanam","key":"5c39825e99eccc04eade045d280d9af"}'}

Create .kaggle directory and copy the kaggle.json file into it.

```
[ ] ! mkdir ./kaggle
! cp kaggle.json ./kaggle/
```

Allocate permission for this kaggle.json file

```
[ ] ! chmod 600 ./kaggle/kaggle.json
```

Downloading the dataset

```
[ ] ! kaggle datasets download arbethi/diabetic-retinopathy-level-detection
```

Traceback (most recent call last):
File "/usr/local/bin/kaggle", line 5, in <module>

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! kaggle datasets download arbethi/diabetic-retinopathy-level-detection
```

```
Traceback (most recent call last):
  File "/usr/local/bin/kaggle", line 5, in <module>
    from kaggle.cli import main
  File "/usr/local/lib/python3.7/dist-packages/kaggle/_init_.py", line 23, in <module>
    api.authenticate()
  File "/usr/local/lib/python3.7/dist-packages/kaggle/api/kaggle_api_extended.py", line 166, in authenticate
    self.config_file, self.config_dir))
OSError: Could not find kaggle.json. Make sure it's located in /root/.kaggle. Or use the environment method.
```

Unzipping the dataset

```
[ ] ! unzip diabetic-retinopathy-level-detection.zip
```

```
Archive: diabetic-retinopathy-level-detection.zip
  inflating: inception-diabetic.h5
  inflating: preprocessed dataset/preprocessed dataset/testing/0/cfb17a7cc844.png
  inflating: preprocessed dataset/preprocessed dataset/testing/0/cfd8ae73a8b.png
  inflating: preprocessed dataset/preprocessed dataset/testing/0/cfed7c1172ec.png
  inflating: preprocessed dataset/preprocessed dataset/testing/0/cff262ed8f4c.png
  inflating: preprocessed dataset/preprocessed dataset/testing/0/cffc50047828.png
  inflating: preprocessed dataset/preprocessed dataset/testing/0/d02079f3c200.png
  inflating: preprocessed dataset/preprocessed dataset/testing/0/d0926ed2c8e5.png
  inflating: preprocessed dataset/preprocessed dataset/testing/0/d168ebef4117.png
  inflating: preprocessed dataset/preprocessed dataset/testing/0/d16c39b9d6f0.png
  inflating: preprocessed dataset/preprocessed dataset/testing/0/d16c59a2b33a.png
  inflating: preprocessed dataset/preprocessed dataset/testing/0/d16f6431ebca.png
  inflating: preprocessed dataset/preprocessed dataset/testing/0/d1a68c3b9fe5.png
  inflating: preprocessed dataset/preprocessed dataset/testing/0/d1a5d0bcf0d4.png
```

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