In [ ]:
```
import tensorflow.keras as keras
from tensorflow.keras import layers
from tensorflow.keras import models
from tensorflow.keras.datasets import mnist
import tensorflow.keras.utils as np_utils
from keras.optimizers import SGD
```

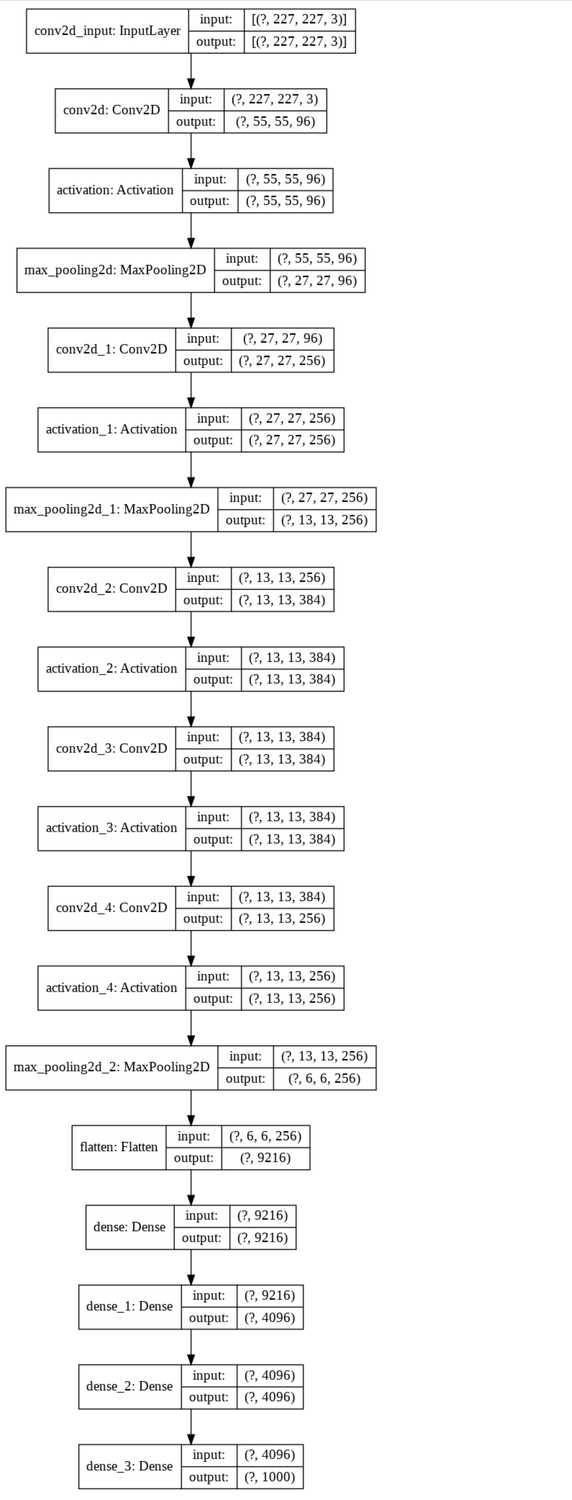
In [ ]:
```
model = models.Sequential()

model.add(layers.Conv2D(96, 11, strides=4, input_shape = (227, 227, 3)))
model.add(layers.Activation("relu"))
model.add(layers.MaxPool2D(pool_size=(3, 3), strides=2))

model.add(layers.Conv2D(256, 5, padding='same'))
model.add(layers.Activation("relu"))
model.add(layers.MaxPool2D(pool_size=(3, 3), strides=2))

model.add(layers.Conv2D(384, 3, padding='same'))
model.add(layers.Activation("relu"))

model.add(layers.Conv2D(384, 3, padding='same'))
model.add(layers.Activation("relu"))

model.add(layers.Conv2D(256, 3, padding='same'))
model.add(layers.Activation("relu"))

model.add(layers.MaxPool2D(pool_size=(3, 3), strides=2))

model.add(layers.Flatten())
model.add(layers.Dense(9216, activation='relu'))
model.add(layers.Dense(4096, activation='relu'))
model.add(layers.Dense(4096, activation='relu'))
model.add(layers.Dense(1000, activation='softmax'))
```

In [ ]:
```
model.summary()
```

```
Model: "sequential"
_________________________________________________________________
Layer (type)                 Output Shape              Param #
=================================================================
conv2d (Conv2D)              (None, 55, 55, 96)        34944
_________________________________________________________________
activation (Activation)      (None, 55, 55, 96)        0
_________________________________________________________________
max_pooling2d (MaxPooling2D) (None, 27, 27, 96)        0
_________________________________________________________________
conv2d_1 (Conv2D)            (None, 27, 27, 256)       614656
_________________________________________________________________
activation_1 (Activation)    (None, 27, 27, 256)       0
_________________________________________________________________
max_pooling2d_1 (MaxPooling2 (None, 13, 13, 256)       0
_________________________________________________________________
conv2d_2 (Conv2D)            (None, 13, 13, 384)       885120
_________________________________________________________________
activation_2 (Activation)    (None, 13, 13, 384)       0
_________________________________________________________________
conv2d_3 (Conv2D)            (None, 13, 13, 384)       1327488
_________________________________________________________________
activation_3 (Activation)    (None, 13, 13, 384)       0
_________________________________________________________________
conv2d_4 (Conv2D)            (None, 13, 13, 256)       884992
_________________________________________________________________
activation_4 (Activation)    (None, 13, 13, 256)       0
_________________________________________________________________
max_pooling2d_2 (MaxPooling2 (None, 6, 6, 256)         0
_________________________________________________________________
flatten (Flatten)            (None, 9216)              0
_________________________________________________________________
dense (Dense)                (None, 9216)              84943872
_________________________________________________________________
dense_1 (Dense)              (None, 4096)              37752832
_________________________________________________________________
dense_2 (Dense)              (None, 4096)              16781312
_________________________________________________________________
dense_3 (Dense)              (None, 1000)              4097000
=================================================================
Total params: 147,322,216
Trainable params: 147,322,216
Non-trainable params: 0
_________________________________________________________________
```

In [ ]:
```
keras.utils.plot_model(model, "AlexNet.png", rankdir="TB", show_shapes=True)
```

Out[ ]:



In [ ]: