Image Preprocessing

In [20]:
```
from keras.preprocessing.image import ImageDataGenerator
train_datagen = ImageDataGenerator(rescale = 1./255,shear_range = 0.2,zoom_range = 0.2,horizontal_flip = True)
test_datagen = ImageDataGenerator(rescale = 1)
```

In [29]:
```
x_train = train_datagen.flow_from_directory(r'C:\Users\chana\OneDrive\Desktop\IBM Project folder/Dataset Plant Disease\fruit-dataset\fruit
x_test = test_datagen.flow_from_directory(r'C:\Users\chana\OneDrive\Desktop\IBM Project folder\Dataset Plant Disease\fruit-dataset\fruit-d
```

```
Found 5384 images belonging to 6 classes.
Found 1686 images belonging to 6 classes.
```

Importing Libraries

In [30]:
```
from keras.models import Sequential
from keras.layers import Dense
from keras.layers import Convolution2D
from keras.layers import MaxPooling2D
from keras.layers import Flatten
import warnings
warnings.filterwarnings('ignore')
```

Initializing Model

In [31]:
```
model = Sequential()
```

Adding CNN layers

Convolution Layer

In [32]:
```
model.add(Convolution2D(32,(3,3),input_shape = (128,128,3),activation = 'relu'))
```

Pooling Layer

In [33]:
```
model.add(MaxPooling2D(pool_size = (2,2)))
```

Flatten Layer

In [34]:
```
model.add(Flatten())
```

Adding Dense Layer

In [35]:
```
model.add(Dense(40,kernel_initializer='uniform', activation = 'relu'))
model.add(Dense(20,kernel_initializer = 'random_uniform', activation = 'relu'))
model.add(Dense(6,kernel_initializer = 'random_uniform', activation = 'softmax'))
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