In [1]:

```
from keras.preprocessing.image import ImageDataGenerator
train_datagen = ImageDataGenerator(rescale = 1./255, shear_range = 0.2,zoom_range =  0.2,ho
test_datagen =  ImageDataGenerator(rescale = 1./255)
```

```
Using TensorFlow backend.
```

In [2]:

```
n = train_datagen.flow_from_directory(r"C:\Users\Admin\Desktop\Team 71-Skin Diseases Identif
  = test_datagen.flow_from_directory(r"C:\Users\Admin\Desktop\Team 71-Skin Diseases Identifi
```

```
Found 360 images belonging to 5 classes.
Found 160 images belonging to 5 classes.
```

In [3]:

```
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
```

In [4]:

```
model=Sequential()
```

```
WARNING:tensorflow:From C:\ProgramData\Anaconda3\lib\site-packages\keras\bac
kend\tensorflow_backend.py:74: The name tf.get_default_graph is deprecated.
Please use tf.compat.v1.get_default_graph instead.
```

In [5]:

```
model.add(Convolution2D(32,3,3,input_shape=(64,64,3),activation = 'relu'))
```

```
WARNING:tensorflow:From C:\ProgramData\Anaconda3\lib\site-packages\keras\bac
kend\tensorflow_backend.py:517: The name tf.placeholder is deprecated. Pleas
e use tf.compat.v1.placeholder instead.


C:\ProgramData\Anaconda3\lib\site-packages\ipykernel_launcher.py:1: UserWarn
ing: Update your `Conv2D` call to the Keras 2 API: `Conv2D(32, (3, 3), input
_shape=(64, 64, 3..., activation="relu")`
  """Entry point for launching an IPython kernel.

WARNING:tensorflow:From C:\ProgramData\Anaconda3\lib\site-packages\keras\bac
kend\tensorflow_backend.py:4138: The name tf.random_uniform is deprecated. P
lease use tf.random.uniform instead.
```

In [6]:

```
model.add(MaxPooling2D(pool_size=(2,2)))
```

```
WARNING:tensorflow:From C:\ProgramData\Anaconda3\lib\site-packages\keras\bac
kend\tensorflow_backend.py:3976: The name tf.nn.max_pool is deprecated. Plea
se use tf.nn.max_pool2d instead.
```

In [7]:

```
#input layer
model.add(Flatten())
```

In [8]:

```
#hidden layers
model.add(Dense(init='uniform',activation='relu',units=500))
```

```
C:\ProgramData\Anaconda3\lib\site-packages\ipykernel_launcher.py:2: UserWarn
ing: Update your `Dense` call to the Keras 2 API: `Dense(activation="relu",
units=500, kernel_initializer="uniform")`
```

In [9]:

```
model.add(Dense(init='uniform',activation='softmax',units=5))
```

```
C:\ProgramData\Anaconda3\lib\site-packages\ipykernel_launcher.py:1: UserWarn
ing: Update your `Dense` call to the Keras 2 API: `Dense(activation="softma
x", units=5, kernel_initializer="uniform")`
  """Entry point for launching an IPython kernel.
```

In [10]:

```
model.compile(loss='categorical_crossentropy',optimizer='adam',metrics=['accuracy'])
```

```
WARNING:tensorflow:From C:\ProgramData\Anaconda3\lib\site-packages\keras\opt
imizers.py:790: The name tf.train.Optimizer is deprecated. Please use tf.com
pat.v1.train.Optimizer instead.

WARNING:tensorflow:From C:\ProgramData\Anaconda3\lib\site-packages\keras\bac
kend\tensorflow_backend.py:3295: The name tf.log is deprecated. Please use t
f.math.log instead.
```

In [11]:

```
model.fit_generator(x_train,steps_per_epoch = 12,epochs=50,validation_data = x_test,validat
```

```
WARNING:tensorflow:From C:\ProgramData\Anaconda3\lib\site-packages\tensorf
low\python\ops\math_grad.py:1250: add_dispatch_support.<locals>.wrapper (f
rom tensorflow.python.ops.array_ops) is deprecated and will be removed in
a future version.
Instructions for updating:
Use tf.where in 2.0, which has the same broadcast rule as np.where
WARNING:tensorflow:From C:\ProgramData\Anaconda3\lib\site-packages\keras\b
ackend\tensorflow_backend.py:986: The name tf.assign_add is deprecated. Pl
ease use tf.compat.v1.assign_add instead.

Epoch 1/50
12/12 [==============================] - 24s 2s/step - loss: 2.3064 - acc:
0.2729 - val_loss: 1.6216 - val_acc: 0.1938
Epoch 2/50
12/12 [==============================] - 8s 627ms/step - loss: 1.6064 - ac
c: 0.3037 - val_loss: 1.4252 - val_acc: 0.4250
Epoch 3/50
12/12 [==============================] - 8s 635ms/step - loss: 1.4778 - ac
c: 0.3959 - val_loss: 1.3409 - val_acc: 0.4062
```

In [12]:

```
model.save("skindisease.h5")
```

In [13]:

```
print(x_train.class_indices)
```

```
{'Acne': 0, 'Melanoma': 1, 'Peeling skin': 2, 'Ring worm': 3, 'Vitiligo': 4}
```

In [ ]: