MODEL BUILDING

```
                                      )

block13_pool (MaxPooling2D)    (None, 10, 10, 1024  0         ['block13_sepconv2_bn[0][0]']
                                )

batch_normalization_3 (BatchNo  (None, 10, 10, 1024  4096      ['conv2d_3[0][0]']
rmalization)                    )

add_11 (Add)                   (None, 10, 10, 1024  0         ['block13_pool[0][0]',
                                )                              'batch_normalization_3[0][0]']

block14_sepconv1 (SeparableCon  (None, 10, 10, 1536  1582080   ['add_11[0][0]']
v2D)                            )

block14_sepconv1_bn (BatchNorm  (None, 10, 10, 1536  6144      ['block14_sepconv1[0][0]']
alization)                      )

block14_sepconv1_act (Activati  (None, 10, 10, 1536  0         ['block14_sepconv1_bn[0][0]']
on)                             )

block14_sepconv2 (SeparableCon  (None, 10, 10, 2048  3159552   ['block14_sepconv1_act[0][0]']
v2D)                            )

block14_sepconv2_bn (BatchNorm  (None, 10, 10, 2048  8192      ['block14_sepconv2[0][0]']
alization)                      )

block14_sepconv2_act (Activati  (None, 10, 10, 2048  0         ['block14_sepconv2_bn[0][0]']
on)                             )

flatten (Flatten)              (None, 204800)       0         ['block14_sepconv2_act[0][0]']

dense (Dense)                  (None, 5)            1024005   ['flatten[0][0]']

==================================================================================================
Total params: 21,885,485
Trainable params: 1,024,005
Non-trainable params: 20,861,480
```

In [7]:
```python
xception=Xception(input_shape = imageSize + [3], weights = 'imagenet', include_top= False)
```

```
Downloading data from https://storage.googleapis.com/tensorflow/keras-applications/xception/xception_weights_tf_dim_ordering_tf_kernels_notop.h5
83683744/83683744 [==============================] - 82s 1us/step
```

In [8]:
```python
for layer in xception.layers:
    layer.trainable = False
```

In [9]:
```python
x = Flatten()(xception.output)
```

In [10]:
```python
prediction = Dense(5, activation = 'softmax')(x)
```

In [11]:
```python
model = Model(inputs=xception.input, outputs=prediction)
```

In [12]:
```python
model.summary()
```

```
Model: "model"
_____
 Layer (type)                  Output Shape         Param #   Connected to
==================================================================================================
 input_1 (InputLayer)          [(None, 299, 299, 3  0         []
                                )]

 block1_conv1 (Conv2D)         (None, 149, 149, 32  864       ['input_1[0][0]']
                                )

 block1_conv1_bn (BatchNormaliz  (None, 149, 149, 32  128      ['block1_conv1[0][0]']
 ation)                         )

 block1_conv1_act (Activation)  (None, 149, 149, 32  0         ['block1_conv1_bn[0][0]']
                                )
```