RESNET Architecture :-

Resnet 34 => 33 ~~Convolution layer~~.

The first convolutional layer consists of 64 filters with kernel size of 7x7. And the stride is 2x2 and padding is 3x3. Then a Batch Normalization is used. After this ReLu Activation function is used. We give (inplace = True). So it will modify the input directly without allocating any additional output. Maxpool layer is used. The kernel size is 3, stride is 1 and padding is 1. This Architecture has 4 sequential layer.

First sequential layer :- It consists of 3 blocks. Each block contains 2 Convolution layer, 2 batch Normalization And the Activation function is ReLu. The filter size is 64 and kernel size is (3x3). stride = (1, 1) and padding (1, 1). The first layer totally consist 6 Convolution layer.

Second sequential layer : It consists of 4 blocks. Each block Contains 2 Convolution layer. But the first block contains 3 convolution layer. It has totally 9 Convolution layer

The filter size is 128 and kernel size = (3,3) stride is (2,2). BatchNorm and ReLu activation function is used.

Third sequential layer: It has 5 blocks. First block contains 3 Convolution layer with filter size 256 and kernel size = (3,3). other 4 blocks contains 2 Convolution layer for each block. filter size is 256. kernel size (3,3) stride (1,1) padding (1,1) Totally 13 Convolution layer. BatchNorm and ReLu activation function is used.

Fourth sequential layer: It contains 3 Blocks. First block contains 3 Convolution layer. second and third block contains 2 Convolution layer. The filter size is 512 kernel size = (3x3) stride is (1,1). Totally 7 Convolution layer. BatchNorm and ReLu activation function is used.

Avgpool layer is used. The kernel size = 7, stride: 1 and padding: 0

Finally fully connected layer is used. First linear layer consists in-features = 8048, out-features = 512. After this ReLu activation function is used. And a Dropout layer is used

The next linear layer consists of 512 in-features (size of each input sample), 64 out-features (size of each output sample). Next ReLu Activation function is used.

Finally the linear layer consists of 64 in-features and 1 out-feature.