**What are gradcams?**

Gradient weighted Class Activation Map (Grad-CAM) produces a heat map that highlights the important regions of an image by using the gradients of the target(bird, elephant) of the final convolutional layer. We take the weights of the final layer, compare every channel in that feature with the gradient of the class with respect to the channel. It tells us how intensely the input image activates different channels by how important each channel is with regard to the class. It does not require any re-training or change in the existing architecture.

**Why do we need them?**

Suppose you are given a task of classifying different birds. The dataset contains images of different birds and plant/trees in the background. If the network is looking at the plants and trees instead of the bird, there is a good chance the network will misclassify the image and miss all the features of the bird. How do we know our model is looking at the right thing? One way of ensuring that our model is seeing the bird is by visualizing the output of the last layer. This is what is done in gradcams.

**Using a pretrained model**

* Import the required libraries
* load the pretrained model
* Get the data summary

**Visualizing using gradcam**

* Load an image
* Make predictions about the class index using the pretrained model
* plot a heatmap to get the visualizations