NAME: Renu Tamsekar

ROLL NO: 3253

TITLE : image recognition using transfer learning

LAB NO:

PROBLEM STATEMENT :   write a program to implement image recognition using transfer learning.

METHODOLOGY :

* Load the pretrained model and its associated weights.
* Load the image to be recognized
* Pre-process the image by resizing it to the input size of the pretrained model and normalizing its pixel values
* Pass the pre-processed image through the pretrained model to obtain the output probability distribution over all possible classes.
* Extract the predicted classes labels by selecting the classes with the highest probability score.
* Output the predicted class label.

APPLICATIONS:

* Transfer learning can be effectively used for carrying out image recognition tasks. For example, using transfer learning, a model that is pre-trained for identifying dogs can be used to identify cats. Neural networks are trained on large datasets of images to recognize objects.
* NLP (natural language processing)
* Computer vision
* Gaming industry

RESULTS :

* Accuracy of the classification is approximately 97%

OBSERVATION :

* Transfer leaning uses the knowledge it has gained from the previous task.
* The pre trained models weights are used as initial values for the new model which is then fine tunes on a task specific dataset.

CONCLUSION :

* Transfer learning is a technique where a model trained on one task is reused for another task.
* The knowledge gained during the training on the first task can be leverages to improve the performance of the second task.
* Advantages of transfer learning include reduced training time, better performance, improved generalization to avoid overfitting and easy adaptation.

PRINT OF CODE AND OUTPUT