```
{
  "nbformat": 4,
  "nbformat_minor": 0,
  "metadata": {
    "colab": {
      "provenance": []
    },
    "kernelspec": {
      "name": "python3",
      "display_name": "Python 3"
    },
    "language_info": {
      "name": "python"
    }
  },
  "cells": [
    {
      "cell_type": "code",
      "execution_count": 1,
      "metadata": {
        "id": "3e9z-XinKTxD"
      },
      "outputs": [],
      "source": [
        "import keras\n",
        "from keras.preprocessing.image import ImageDataGenerator"
      ]
    },
    {
      "cell_type": "code",
      "source": [
        "#Define the parameters/arguments for ImageDataGenerator class\n",

    "train_datagen=ImageDataGenerator(rescale=1./255,shear_range=0.2,rotation_range
    =180,zoom_range=0.2,horizontal_flip=True)\n",
        "\n",
        "test_datagen=ImageDataGenerator(rescale=1./255)"
      ],
      "metadata": {
        "id": "baZ4uMlEKenx"
      },
      "execution_count": 2,
      "outputs": []
    },
    {
      "cell_type": "code",
```

```
      "source": [
        "#Applying ImageDataGenerator functionality to trainset\n",

"x_train=train_datagen.flow_from_directory('/content/drive/MyDrive/Dataset/Data
set/train_set',target_size=(128,128),batch_size=32,class_mode='binary')"
      ],
      "metadata": {
        "colab": {
          "base_uri": "https://localhost:8080/"
        },
        "id": "aD3Cdwz9KhGa",
        "outputId": "f22fe834-f81f-4d16-dcbe-982a0ed0ced4"
      },
      "execution_count": 3,
      "outputs": [
        {
          "output_type": "stream",
          "name": "stdout",
          "text": [
            "Found 436 images belonging to 2 classes.\n"
          ]
        }
      ]
    },
    {
      "cell_type": "code",
      "source": [
        "#Applying ImageDataGenerator functionality to testset\n",

"x_test=test_datagen.flow_from_directory('/content/drive/MyDrive/Dataset/Datase
t/test_set',target_size=(128,128),batch_size=32,class_mode='binary')"
      ],
      "metadata": {
        "colab": {
          "base_uri": "https://localhost:8080/"
        },
        "id": "vOonWNA3Knzm",
        "outputId": "9aae78d4-0b8c-4db6-b153-09f171981898"
      },
      "execution_count": 4,
      "outputs": [
        {
          "output_type": "stream",
          "name": "stdout",
          "text": [
            "Found 121 images belonging to 2 classes.\n"
```

```
      ]
    }
  ]
},
{
  "cell_type": "code",
  "source": [
    "#import model building libraries\n",
    "\n",
    "#To define Linear initialisation import Sequential\n",
    "from keras.models import Sequential\n",
    "#To add layers import Dense\n",
    "from keras.layers import Dense\n",
    "#To create Convolution kernel import Convolution2D\n",
    "from keras.layers import Convolution2D\n",
    "#import Maxpooling layer\n",
    "from keras.layers import MaxPooling2D\n",
    "#import flatten layer\n",
    "from keras.layers import Flatten\n",
    "import warnings\n",
    "warnings.filterwarnings('ignore')"
  ],
  "metadata": {
    "id": "PM4f8FIUKxVp"
  },
  "execution_count": 5,
  "outputs": []
},
{
  "cell_type": "code",
  "source": [
    "#initializing the model\n",
    "model=Sequential()"
  ],
  "metadata": {
    "id": "ZcpxSXNLKztK"
  },
  "execution_count": 7,
  "outputs": []
},
{
  "cell_type": "code",
  "source": [
    "#add convolutional layer\n",
```

```
"model.add(Convolution2D(32,(3,3),input_shape=(128,128,3),activation='relu'))\n
",
        "#add maxpooling layer\n",
        "model.add(MaxPooling2D(pool_size=(2,2)))\n",
        "#add flatten layer \n",
        "model.add(Flatten())"
      ],
      "metadata": {
        "id": "PYLrbPbELRMT"
      },
      "execution_count": 8,
      "outputs": []
    }
  ]
}
```