1.DOWNLOAD THE DATA SET

!unzip '/content/drive/MyDrive/Flowers-Dataset.zip'

2.IMAGE AUGMENTATION

from tensorflow.keras.preprocessing.image import ImageDataGenerator

train\_datagen=ImageDataGenerator(rescale=1./255, zoom\_range=0.2, horizontal\_flip=True) test\_datagen=ImageDataGenerator(rescale=1./255)

xtrain=train\_datagen.flow\_from\_directory('/content/flowers', target\_size=(76,76), class\_mode='categorical', batch\_size=100) Found 4317 images belonging to 5 classes.

xtest=test\_datagen.flow\_from\_directory('/content/flowers', target\_size=(76,76), class\_mode='categorical', batch\_size=100) Found 4317 images belonging to 5 classes.

3.CREAT MODEL

from tensorflow.keras.models import Sequential

from tensorflow.keras.layers import Convolution2D,MaxPool2D,Flatten,Dense

4.ADD LAYERS

model=Sequential() model.add(Convolution2D(32,

(3,3),activation='relu',input\_shape=(76,76,3))) model.add(MaxPool2D(pool\_size=(2,2))) model.add(Flatten())

model.add(Dense(300,activation='relu')) model.add(Dense(150,activation='relu')) model.add(Dense(4,activation='softmax'))

5.COMPILE THE MODEL

model.compile(optimizer='adam',loss='categorical\_crossentropy',metrics =['accuracy'])

6.FIT THE MODEL

model.fit\_generator(xtrain,

steps\_per\_epoch= len (xtrain), epochs= 10, validation\_data=xtest, validation\_steps= len (xtest))

1. SAVE THE MODEL model.save('flowers.h5')

8.TESTING THE MODEL

testing 1

from tensorflow.keras.preprocessing import image import numpy as np

img=image.load\_img('/content/flowers/daisy/ 10140303196\_b88d3d6cec.jpg',target\_size=(76,76)) img



x=image.img\_to\_array(img) x

x=np.expand\_dims(x,axis=0) pred=np.argmax(model.predict(x)) pred

op=['daisy','dandelion','rose','sunflower','tulip'] op[pred]

{"type":"string"}

testing 2

img=image.load\_img('/content/flowers/rose/ 10503217854\_e66a804309.jpg',target\_size=(76,76)) img



x=image.img\_to\_array(img) x

x=np.expand\_dims(x,axis=0) pred=np.argmax(model.predict(x)) pred

op=['daisy','dandelion','rose','sunflower','tulip'] op[pred]

{"type":"string"}

testing 3

img=image.load\_img('/content/flowers/sunflower/ 1022552002\_2b93faf9e7\_n.jpg',target\_size=(76,76)) img



x=image.img\_to\_array(img) x

x=np.expand\_dims(x,axis=0) pred=np.argmax(model.predict(x)) pred

op=['daisy','dandelion','rose','sunflower','tulip'] op[pred]

{"type":"string"}