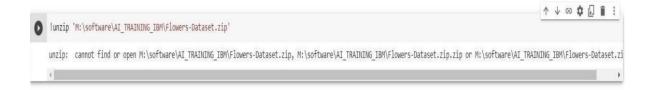
#### **ASSIGNMENT – 3**

Assignment Date	11 October 2022
Student Name	Deepika T
Student Roll Number	111519106022
Maximum Marks	2 Marks

#### QUESTION - 1:

# **DOWNLOAD THE DATASET**



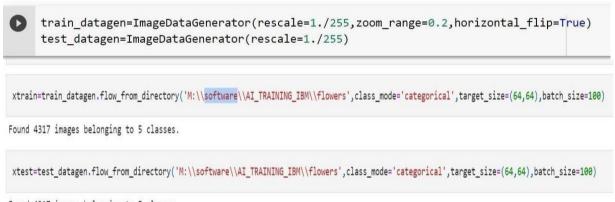
# **QUESTION – 2:**

## **DATA/ IMAGE AUGMENTATION**

[3] from tensorflow.keras.preprocessing.image import ImageDataGenerator

### QUESTION - 3:

#### **TRAINING & TESTING**



Found 4317 images belonging to 5 classes.

### **QUESTION - 4 & 5:**

**CREATE MODEL:** 

**ADD LAYERS** 

```
[7] from tensorflow.keras.models import Sequential
from tensorflow.keras.layers import Convolution2D, MaxPooling2D, Flatten, Dense

model=Sequential()
model.add(Convolution2D(64,(3,3),activation='relu',input_shape=(64,64,3)))
model.add(MaxPooling2D(pool_size=(2,2)))
model.add(Flatten())
model.add(Dense(300,activation='relu'))
model.add(Dense(150,activation='relu'))
model.add(Dense(5,activation='softmax'))
```

### QUESTION - 6:

#### **COMPILE:**

```
model.compile(optimizer='adam',loss='categorical_crossentropy',metrics=['accuracy'])
```

#### QUESTION - 7:

#### **FIT THE MODEL:**

# **QUESTION - 8:**

#### **SAVING THE MODEL**

```
[11] model.save('Flower.h5')

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

#### **QUESTION - 9:**

#### **TEST THE MODEL**

```
In [22]:
    img=image.load_img('M:\\software\\AI_TRAINING_IBM\\flowers\\sunflower\\6953297_8576bf4ea3.jpg',target_size=(64,64))
    x=image.img_to_array(img)
    x=np.expand_dims(x,axis=0)
    prediction=np.argmax(model.predict(x))
    op=['daisy','dandelion','rose','sunflower','tulip']
    op[prediction]

1/1 [==========] - 0s 22ms/step
    'sunflower'
```

## **QUESTION -10:**

#### **TESTING THE MODEL**