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#sprint2_saran
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```
#!/usr/bin/env python
```

```
# coding: utf-8
```

```
# In[1]:
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```
from keras.models import Sequential
```

```
from keras.layers import Dense
```

```
from keras.layers import Convolution2D
```

```
from keras.layers import MaxPooling2D
```

```
from keras.layers import Flatten
```

```
# In[2]:
```

```
from keras.preprocessing.image import ImageDataGenerator
```

```
train_datagen =
```

```
ImageDataGenerator(rescale=1./255, shear_range=0.2, zoom_range=0.2, horizontal_flip=True)
```

```
test_datagen = ImageDataGenerator(rescale=1./255)
```

```
# In[6]:
```

```
x_train =
```

```
train_datagen.flow_from_directory(r'C:\Users\HP\Desktop\data_set\TRAIN_SET\TRAIN_SET', target_size=(64,64), batch_size=32, class_mode='categorical')
```

```
x_test = test_datagen.flow_from_directory(r'C:\Users\HP\Desktop\data_set\TEST_SET-20221101T044129Z-001\TEST_SET', target_size=(64,64), batch_size=32, class_mode='categorical')
```

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# In[8]:
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```
x_train.class_indices
```

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# In[9]:
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```
model = Sequential()
```

```
# In[10]:
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```
model.add(Convolution2D(32,(3,3),input_shape = (64,64,3),activation ="relu"))
```

```
# In[11]:
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```
model.add(MaxPooling2D(pool_size =(2,2)))
```

```
# In[12]:
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```
model.add(Flatten())
```

```
# In[14]:
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```
model.add(Dense(units = 128 ,kernel_initializer ="uniform" , activation = "relu"))
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```
# In[15]:
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```
model.add(Dense(units = 5 ,kernel_initializer ="uniform" , activation = "softmax"))
```

```
# In[18]:
```

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

```
# In[19]:
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```
model.fit_generator(x_train,steps_per_epoch=47,epochs=10,validation_data=x_test  
,validation_steps =20)
```

```
# In[20]:
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```
model.save("fruit.h5")
```

```
# In[21]:
```

```
get_ipython().system('tar -zcvf image-classification-model_new.tgz fruit.h5')
```

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# In[ ]:
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```
# In[ ]:
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