```python
from google.colab import drive
drive.mount('/content/drive')
```

    Drive already mounted at /content/drive; to attempt to forcibly remount, call drive.mount("/content/drive", force_remount=True).

```python
import numpy as np
import tensorflow as tf
import matplotlib.pyplot as plt
```
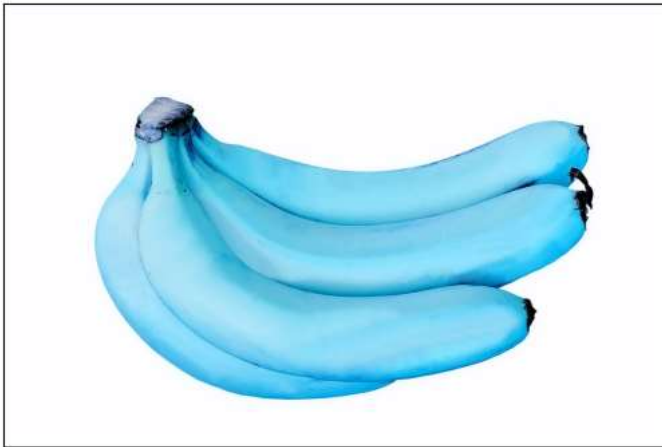
```python
#load our model
cnn = tf.keras.models.load_model('/content/trained_model (1).h5')
```

```python
#performing prediction on single image
```

```python
import cv2
image_path= '/content/drive/MyDrive/test/banana/Image_10.jpg'
img= cv2.imread(image_path)
plt.imshow(img)
plt.title("TEST IMAGE")
plt.xticks([])
plt.yticks([])
plt.show()
```



```python
#testing model
```

```python
image= tf.keras.preprocessing.image.load_img(image_path, target_size= (64,64))
input_arr= tf.keras.preprocessing.image.img_to_array(image)
input_arr= np.array([input_arr]) # converting single image to batch
predictions= cnn.predict(input_arr)
```

    1/1 [==============================] - 0s 127ms/step

```python
print(predictions)
```

    [[3.24683280e-10 9.99805748e-01 1.39238955e-06 2.02975067e-11
      5.13495579e-10 3.34074944e-13 2.63900972e-08 2.98097239e-05
      1.95865080e-13 7.14430968e-08 3.00457944e-12 6.47524881e-11
      1.39076258e-06 1.72382343e-07 1.06880267e-04 1.99446471e-13
      2.19278302e-08 2.08475566e-08 1.96260856e-08 2.17811031e-08
      9.52254009e-09 1.35776787e-07 6.00160810e-10 1.02104541e-05
      1.54888624e-12 5.16336627e-07 1.71088879e-10 1.64360650e-08
      4.33182468e-05 6.18518170e-09 1.11050565e-10 1.00334198e-07
      9.70834593e-11 5.35324660e-13 1.27563311e-08 1.40191304e-07]]

```
test_set= tf.keras.utils.image_dataset_from_directory('/content/drive/MyDrive/test',
labels='inferred',
label_mode='categorical',
class_names=None,
color_mode='rgb',
batch_size=32,
image_size=(64, 64),
shuffle=True,
seed=None,
validation_split=None,
subset=None,
interpolation='bilinear',
follow_links=False,
crop_to_aspect_ratio=False
                                                    )
```

```
Found 359 files belonging to 36 classes.
```

```
test_set.class_names
```

```
['apple',
 'banana',
 'beetroot',
 'bell pepper',
 'cabbage',
 'capsicum',
 'carrot',
 'cauliflower',
 'chilli pepper',
 'corn',
 'cucumber',
 'eggplant',
 'garlic',
 'ginger',
 'grapes',
 'jalepeno',
 'kiwi',
 'lemon',
 'lettuce',
 'mango',
 'onion',
 'orange',
 'paprika',
 'pear',
 'peas',
 'pineapple',
 'pomegranate',
 'potato',
 'raddish',
 'soy beans',
 'spinach',
 'sweetcorn',
 'sweetpotato',
 'tomato',
 'turnip',
 'watermelon']
```

```
result_index= np.where(predictions[0]== max(predictions[0]))
print(result_index[0][0])
```

```
1
```

```
plt.imshow(img)
plt.title("TEST IMAGE")
plt.xticks([])
plt.yticks([])
plt.show()
```

TEST IMAGE
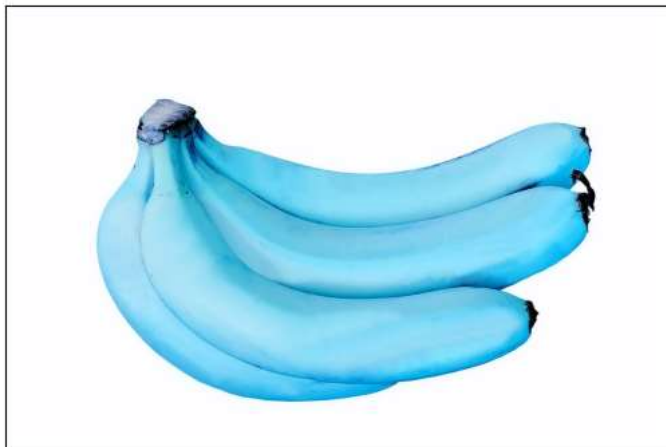


```
#single prediction
print("It's a {}".format(test_set.class_names[result_index[0][0]]))
```

```
It's a banana
```