

```

import tensorflow as tf
import numpy as np
from sklearn.datasets import load_iris
from sklearn.model_selection import train_test_split
from sklearn.preprocessing import LabelBinarizer

# Load Iris dataset
iris = load_iris()
X, y = iris.data, iris.target

# One-hot encode labels
y = LabelBinarizer().fit_transform(y)

# Split data into train and test sets
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)

# Define model architecture
model = tf.keras.Sequential([
    tf.keras.layers.Dense(16, input_shape=(4,), activation='relu'),
    tf.keras.layers.Dense(8, activation='relu'),
    tf.keras.layers.Dense(3, activation='softmax')
])

# Compile and train model with different optimizers
optimizers = ['sgd', 'adam', 'rmsprop']
for optimizer in optimizers:
    model.compile(loss='categorical_crossentropy', optimizer=optimizer, metrics=['accuracy'])
    history = model.fit(X_train, y_train, validation_data=(X_test, y_test), epochs=50, verbose=0)
    loss, accuracy = model.evaluate(X_test, y_test, verbose=0)
    print('Optimizer:', optimizer)
    print('Test loss:', loss)
    print('Test accuracy:', accuracy)

# Allow user to input values for the flower attributes
print('\nInput values for the flower attributes:')
sepal_length = float(input('Sepal length (cm): '))
sepal_width = float(input('Sepal width (cm): '))
petal_length = float(input('Petal length (cm): '))
petal_width = float(input('Petal width (cm): '))

# Predict class of flower based on input values
input_values = np.array([[sepal_length, sepal_width, petal_length, petal_width]])
prediction = model.predict(input_values)
predicted_class = np.argmax(prediction)
print('\nPredicted class:', predicted_class)

# Estimate memory requirement
size_in_bytes = model.count_params() * 4 # each parameter is a 32-bit float
size_in_mb = size_in_bytes / (1024 * 1024)
print(f'Memory requirement: {size_in_mb:.2f} MB')

```

```

➤ Optimizer: sgd
  Test loss: 0.4025469422340393
  Test accuracy: 0.8999999761581421
  Optimizer: adam
  Test loss: 0.22563312947750092
  Test accuracy: 0.8999999761581421
  Optimizer: rmsprop
  Test loss: 0.1614173799753189
  Test accuracy: 0.8999999761581421

Input values for the flower attributes:
Sepal length (cm): 10
Sepal width (cm): 40
Petal length (cm): 30
Petal width (cm): 8
1/1 [=====] - 0s 94ms/step

Predicted class: 1
Memory requirement: 0.00 MB

```