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import pandas as pd

from sklearn.model_selection import train_test_split
from sklearn.ensemble import RandomForestClassifier


# Load data
data = pd.read_csv('EX9.csv')


# Prepare attributes and target
attribute = pd.get_dummies(data[['team1', 'team2', 'venue', 'toss_winner', 'toss_decision']])
target = pd.factorize(data['winner'])[0]
winner_labels = data['winner'].unique()


# Split data
attr_train, attr_test, target_train, target_test = train_test_split(attribute, target, test_size=0.2)


# Train model
model = RandomForestClassifier()
model.fit(attr_train, target_train)


# Accuracy
print("Accuracy:", model.score(attr_test, target_test))


# Predict winner
def predict_winner():
    team1 = input("Enter Team 1: ")
    team2 = input("Enter Team 2: ")
    venue = input("Enter Venue: ")
    toss_winner = input("Enter Toss Winner: ")
    toss_decision = input("Enter Toss Decision (bat/bowl): ")

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user_input = pd.DataFrame([[team1, team2, venue, toss_winner, toss_decision]],
                           columns=['team1', 'team2', 'venue', 'toss_winner', 'toss_decision'])
user_input = pd.get_dummies(user_input)
user_input = user_input.reindex(columns=attribute.columns, fill_value=0)

prediction = model.predict(user_input)
print("Predicted Winner:", winner_labels[prediction[0]])

predict_winner()
```