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import numpy as np
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
from sklearn.metrics import mean_squared_error
from sklearn.preprocessing import StandardScaler
import random

data = {
    "sleep_hours": [5, 8, 4, 6, 7, 3, 9, 2],
    "social_interactions": [1, 5, 0, 3, 4, 0, 6, 0],
    "academic_performance": [60, 85, 50, 70, 80, 45, 90, 30],
    "depression_level": [7, 2, 8, 5, 3, 9, 1, 10],  # Higher score
indicates depression
}
df = pd.DataFrame(data)

X = df.drop("depression_level", axis=1)
y = df["depression_level"]
scaler = StandardScaler()
X_scaled = scaler.fit_transform(X)

X_train, X_test, y_train, y_test = train_test_split(X_scaled, y,
test_size=0.2, random_state=42)

model = LinearRegression()
model.fit(X_train, y_train)
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LinearRegression()
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y_pred = model.predict(X_test)
print("Mean Squared Error:", mean_squared_error(y_test, y_pred))
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Mean Squared Error: 0.03130878796022497
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def analyze_depression(sleep_hours, social_interactions,
academic_performance):
    # Scale user input
    input_data = scaler.transform([[sleep_hours, social_interactions,
academic_performance]])
    depression_score = model.predict(input_data)[0]
    return depression_score

def chatbot():
    print("Hello, I'm here to help you. Let's talk!")
    print("I need to ask a few questions to understand how you're
feeling.")

    sleep_hours = float(input("How many hours do you sleep on average
per night? "))
    social_interactions = int(input("How many social interactions
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(like talking to friends) do you have daily? "))
    academic_performance = float(input("How would you rate your
academic performance on a scale of 0 to 100? "))

    score = analyze_depression(sleep_hours, social_interactions,
academic_performance)
    print(f"Your estimated depression level is: {score:.2f}")
    if score > 5:  # Threshold for depression
        print("It seems you're feeling low. Let's talk about ways to
feel better.")
        responses = [
            "Remember, you're not alone in this.",
            "Try to take small steps towards your goals.",
            "Talking to a trusted friend or counselor can help a
lot.",
        ]
        for _ in range(3):
            print(random.choice(responses))
    else:
        print("You're doing well! Keep maintaining your balance. If
you ever feel low, I'm here to help.")

chatbot()
```

```
Hello, I'm here to help you. Let's talk!
I need to ask a few questions to understand how you're feeling.
How many hours do you sleep on average per night? 5
How many social interactions (like talking to friends) do you have
daily? 3
How would you rate your academic performance on a scale of 0 to 100? 7
Your estimated depression level is: 9.15
It seems you're feeling low. Let's talk about ways to feel better.
Talking to a trusted friend or counselor can help a lot.
Remember, you're not alone in this.
Talking to a trusted friend or counselor can help a lot.

/usr/local/lib/python3.11/dist-packages/sklearn/utils/
validation.py:2739: UserWarning: X does not have valid feature names,
but StandardScaler was fitted with feature names
  warnings.warn(
```