

Della Khairunnisa

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Tugas AVD 16 Mei 2025

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[18]: import mysql.connector
import matplotlib.pyplot as plt
from mpl_toolkits.mplot3d import Axes3D
import numpy as np

mydb = mysql.connector.connect(
    host="localhost",
    user="root",
    password="",
    database="tugasavd"
)

mycursor = mydb.cursor()
mycursor.execute("SELECT semester, jumlah_sks, nilai FROM ips")
myresult = mycursor.fetchall()

semester = []
jumlah_sks = []
nilai = []

for row in myresult:
    semester.append(row[0]) # semester
    jumlah_sks.append(row[1]) # jumlah_sks
    nilai.append(row[2]) # nilai

semester = [int(s) for s in semester]
semester_np = np.array(semester)
nilai_np = np.array(nilai)

z = np.zeros_like(semester_np)

# Grafik 2D
plt.figure(figsize=(8,5))
plt.plot(semester_np, nilai_np, marker='o', color='olive', linestyle='--', label='Nilai IP')
plt.xlabel('Semester')
plt.ylabel('Nilai IP')
plt.title('Perkembangan Nilai IP per Semester (2D)', fontsize=14, fontweight='bold')
plt.grid(True, linestyle='--', alpha=0.5)
plt.legend()
plt.xticks(semester) # untuk grafik 2D

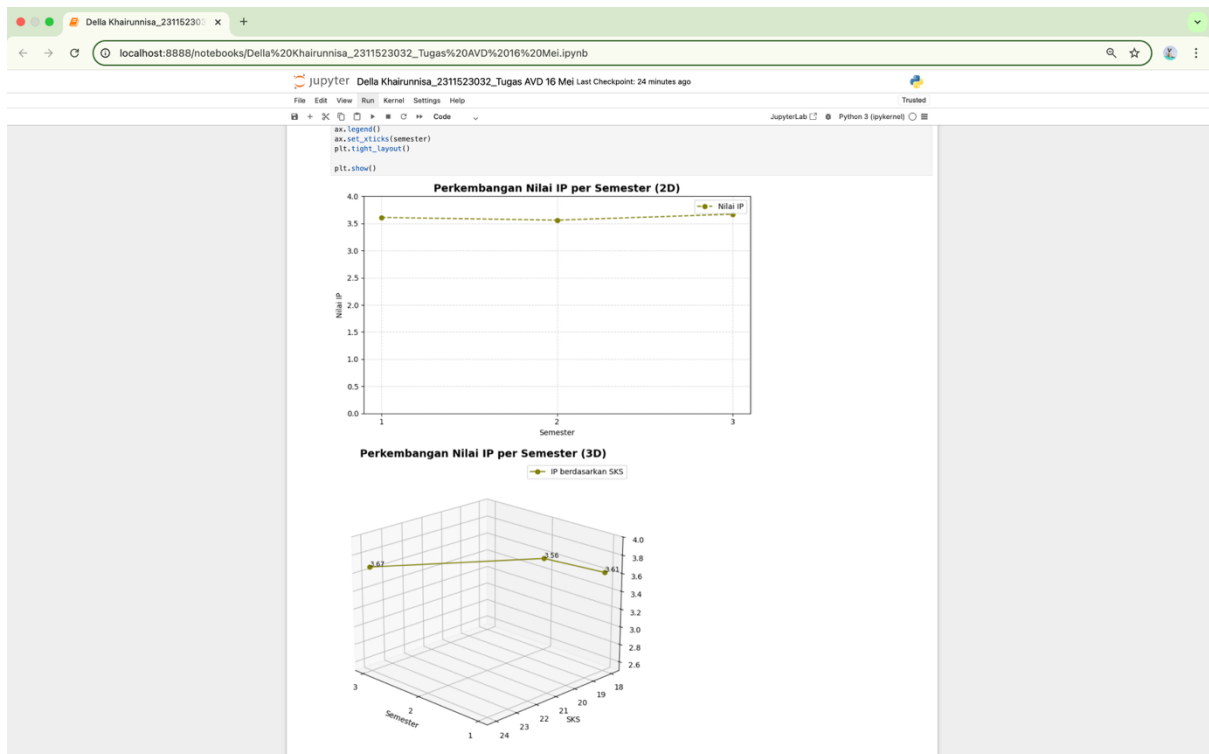
# atau untuk grafik 3D
ax = plt.gca().projection

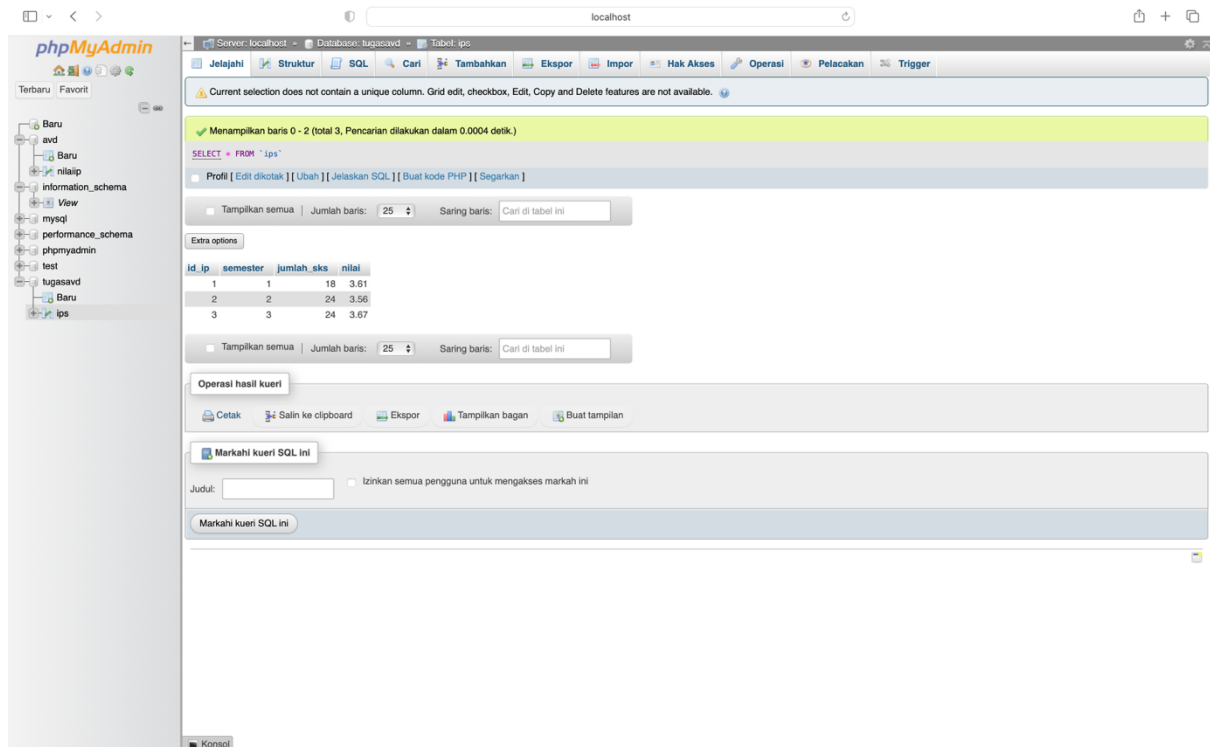
plt.tight_layout()
plt.show()

# --- Grafik 3D ---
fig = plt.figure(figsize=(10, 6))
ax = fig.add_subplot(111, projection='3d')
ax.plot(semester, jumlah_sks, nilai, marker='o', linestyle='--', color='olive', label='IP berdasarkan SKS')

for i in range(len(semester)):
    ax.text(semester[i], jumlah_sks[i], nilai[i]+0.01, f"({nilai[i]:.2f})", fontsize=9, color='black')

ax.set_xlabel('Semester')
ax.set_ylabel('SKS')
ax.set_zlabel('IP')
ax.set_title('Perkembangan Nilai IP per Semester (3D)', fontsize=14, fontweight='bold')
```





Kodingan :

```
import mysql.connector
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import numpy as np

mydb = mysql.connector.connect(
    host="localhost",
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mycursor = mydb.cursor()
mycursor.execute("SELECT semester, jumlah_sks, nilai FROM ips")
myresult = mycursor.fetchall()

semester = []
jumlah_sks = []
nilai = []

for row in myresult:
    semester.append(row[0]) # semester
    jumlah_sks.append(row[1]) # jumlah_sks
    nilai.append(row[2]) # nilai

semester = [int(s) for s in semester]
semester_np = np.array(semester)
```

```

nilai_np = np.array(nilai)

z = np.zeros_like(semester_np)

# Grafik 2D
plt.figure(figsize=(8,5))
plt.plot(semester_np, nilai_np, marker='o', color='olive', linestyle='--', label='Nilai IP')
plt.xlabel('Semester')
plt.ylabel('Nilai IP')
plt.title('Perkembangan Nilai IP per Semester (2D)', fontsize=14, fontweight='bold')
plt.ylim(0,4)
plt.grid(True, linestyle='--', alpha=0.5)
plt.legend()
plt.xticks(semester) # untuk grafik 2D

# atau untuk grafik 3D
ax.set_xticks(semester)

plt.tight_layout()
plt.show()

# --- Grafik 3D ---
fig = plt.figure(figsize=(10, 6))
ax = fig.add_subplot(111, projection='3d')

ax.plot(semester, jumlah_sks, nilai, marker='o', linestyle='-', color='olive', label='IP
berdasarkan SKS')

for i in range(len(semester)):
    ax.text(semester[i], jumlah_sks[i], nilai[i]+0.01, f'{nilai[i]:.2f}', fontsize=9,
color='black')

ax.set_xlabel('Semester')
ax.set_ylabel('SKS')
ax.set_zlabel('IP')
ax.set_title('Perkembangan Nilai IP per Semester (3D)', fontsize=14, fontweight='bold')
ax.set_zlim(2.5, 4.0)
ax.view_init(elev=20, azim=135) # sudut pandang biar lebih jelas
ax.legend()
ax.set_xticks(semester)
plt.tight_layout()

plt.show()

```