

TUGAS 4 FISIKA KOMPUTASI

KELOMPOK 2

NAMA ANGGOTA:

1. Febbrya Eka Dewi W (21030224012)
2. Renita Fitriani (21030224047)
3. Chaidar Aria Bayu P (21030224052)
4. Dilla Amalia (21030224053)

PEMBAHASAN:

Pembahasan Termodinamika membuat kontur suhu

KODE

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# %% [markdown]
# # TUGAS 4 FISIKA KOMPUTASI
# ## KELOMPOK 2
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# %%
import numpy as np
import matplotlib.pyplot as plt

# %%
maxIter = 500

lenX = lenY = 20
delta = 1

Ttop = 100
Tbottom = 0
Tleft = 0
Tright = 0

Tguess = 30

# %%
colorinterpolation = 50
colourMap = plt.cm.jet

X, Y = np.meshgrid(np.arange(0, lenX), np.arange(0, lenY))

# %%
T = np.empty((lenX, lenY))
T.fill(Tguess)

T[(lenY-1):, :] = Ttop
T[:, 0] = Tbottom
T[:, (lenX-1):] = Tright
T[:, :1] = Tleft
```

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# %%
print("Mohon Tunggu. . . .")
for iteration in range(0, maxIter):
    for i in range(1, lenX-1, delta):
        for j in range(1, lenY-1, delta):
            T[i, j] = 0.25 * (T[i+1][j] + T[i-1][j] + T[i][j+1] + T[i][j-1])

print("Iterasi Selesai")

# %%
# Konfigurasi
plt.title("Kontur Suhur")
plt.contourf(X, Y, T, colorinterpolation, cmap=colourMap)
plt.colorbar()
plt.show()

print("")

# %%
```

HASIL PLOTING

