

```
# %% [markdown]
# # TUGAS ICT FISMAT 1
# ## NOMOR 2 A
# ### Nama: Chaidar Aria Bayu Pratama
# ### NIM: 21030224052
# ### Kelas: Fisika 2021 E

# %% [markdown]
# 2.  $\sum_{n=1}^{\infty} \frac{n}{3^n}$ 

# %%
import numpy as np
```

```

import matplotlib.pyplot as plt
import sympy as smp
import scipy as scp
from numpy import *
from matplotlib import *
from sympy import *
from mpmath import *
from scipy import *
plt.style.use('classic')

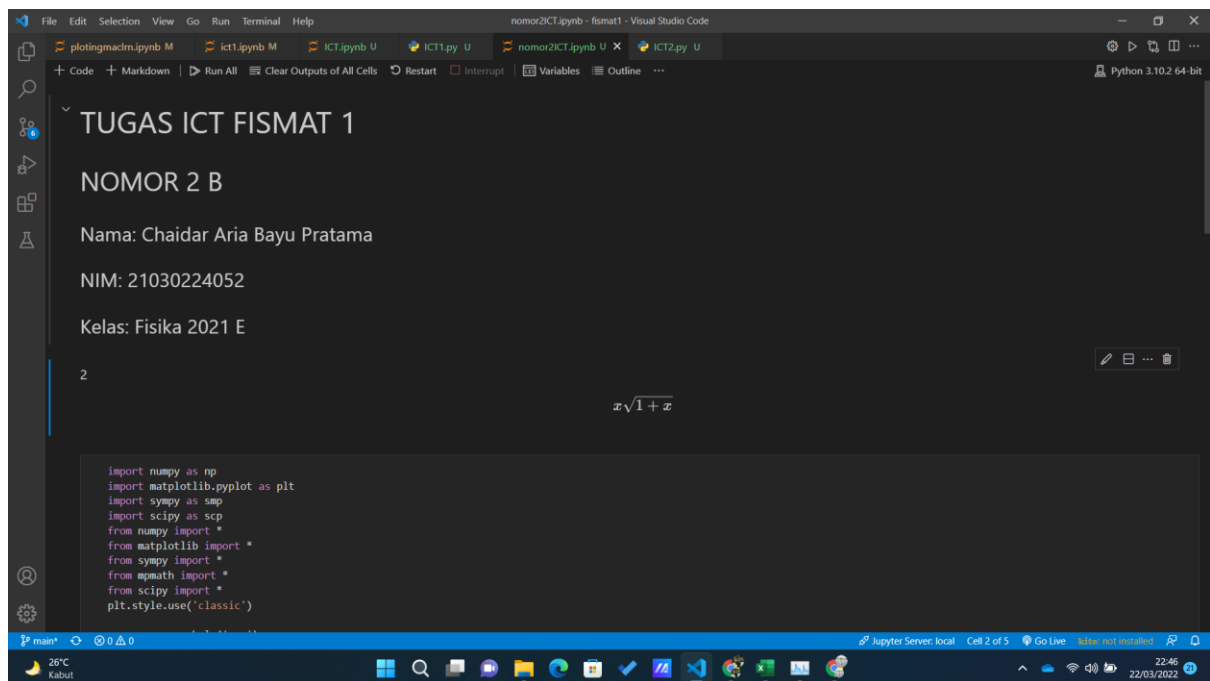
n, x = smp.symbols('n x')

# %%
smp.Sum(n / (3**n), (n, 1, smp.oo)).doit()

# %%
smp.Sum(n / (3**n), (n, 1, smp.oo)).n()

# %%
smp.Sum(n / (3**n), (n, 1, smp.oo)).is_convergent()

```



```

File Edit Selection View Go Run Terminal Help
nomor2ICT.ipynb - fismat1 - Visual Studio Code
plotingmacdm.ipynb M ict1.ipynb M ict1.ipynb U ict1.py U nomor2ICT.ipynb U x ict2.py U
+ Code + Markdown Run All Clear Outputs of All Cells Restart Interrupt Variables Outline Python
import numpy as np
import matplotlib.pyplot as plt
import sympy as sp
import scipy as sp
from numpy import *
from matplotlib import *
from sympy import *
from spmath import *
from scipy import *
plt.style.use('classic')

n, x = sp.symbols('n x')

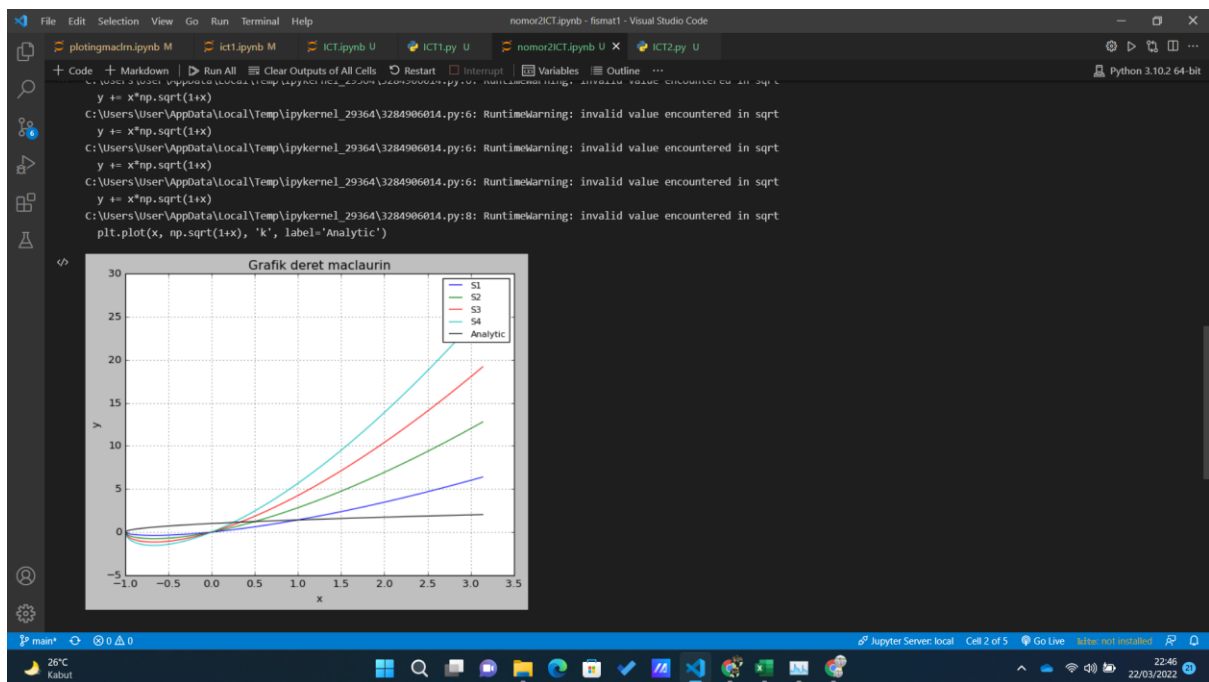
[1] ✓ 2.2s

x = np.linspace(-np.pi, np.pi, 200)
y = np.zeros(len(x))
labels = ['S1', 'S2', 'S3', 'S4']
plt.figure()
for n, label in zip(range(4), labels):
    y = x*np.sqrt(1+x)
    plt.plot(x, y, label=label)
plt.plot(x, np.sqrt(1+x), 'k', label='Analytic')
plt.grid()
plt.title('Grafik deret maclaurin')
plt.xlabel('x')
plt.ylabel('y')
plt.legend(loc='upper right', prop={'size': 10})
plt.show()

[2] ✓ 0.5s

C:\Users\User\AppData\Local\Temp\ipykernel_29364\3284906014.py:6: RuntimeWarning: invalid value encountered in sqrt

```



```

# %% [markdown]
# # TUGAS ICT FISMAT 1
# ## NOMOR 2 B
# ### Nama: Chaidar Aria Bayu Pratama
# ### NIM: 21030224052
# ### Kelas: Fisika 2021 E

# %% [markdown]
# 2
# 
$$y = x\sqrt{1+x}$$


# %%

```

```

import numpy as np
import matplotlib.pyplot as plt
import sympy as smp
import scipy as scp
from numpy import *
from matplotlib import *
from sympy import *
from mpmath import *
from scipy import *
plt.style.use('classic')

n, x = smp.symbols('n x')

# %%
x = np.linspace(-np.pi, np.pi, 200)
y = np.zeros(len(x))
labels = ['S1', 'S2', 'S3', 'S4']
plt.figure()
for n, label in zip(range(4), labels):
    y += x*np.sqrt(1+x)
    plt.plot(x, y, label=label)
plt.plot(x, np.sqrt(1+x), 'k', label='Analytic')
plt.grid()
plt.title('Grafik deret maclaurin')
plt.xlabel('x')
plt.ylabel('y')
plt.legend(loc='upper right', prop={'size': 10})
plt.show()

# %%

```

