DATE / /

1. latar belakang
   Definisi tahapan
2. Data:
   Processing &
   Perhitungan
   Jenis & kualitas
   Eksplorasi data
   (visualisasi & statistik)
3. klasifikasi:
   Decision tree
   Naive bayes

1. Python 3.1
2. VS code → file manager
   folder
   data mining
3. Extension Python
4. F1 27 select interp
   Prefer Python
5. cmd
   run as administrator
   Traction Python
6. Numpy
   Opencv
   Sckit learn
   Matlot lib
   Pandas

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```
import pandas as pd
From sklearn.model_selection import train_test_
From sklearn.tree import decisiontree classifier
From sklearn import metriks
import matFlotlib as plt
From sklearn import tree

# 1. load data
df = pd.read_csv ("D://data_mining/kelulusan.cs

# 2. konversi label
df ["lulus"] = df ["lulus"].map["ya" : 1, "tidak" :0]

# 3. Pemisahan Fitur dan label
X = df [["kehadiran", "Nilai_tugas", "Nilai_UTS", "Nilai_uas"
Y = df ["lulus"]
```

kehadiran, Nilai_tugas, Nilai_UTS, Nilai_UAS, lulus

90, 95, 80, 85, Ya

60, 65, 55, 70, tidak

80, 70, 85, 75, Ya

75, 60, 70, 80, tidak

85, 80, 75, 90, Ya

Fitur : kehadiran

Nilai_Tugas

Nilai_UTS

Nilai_UAS

label : lulus

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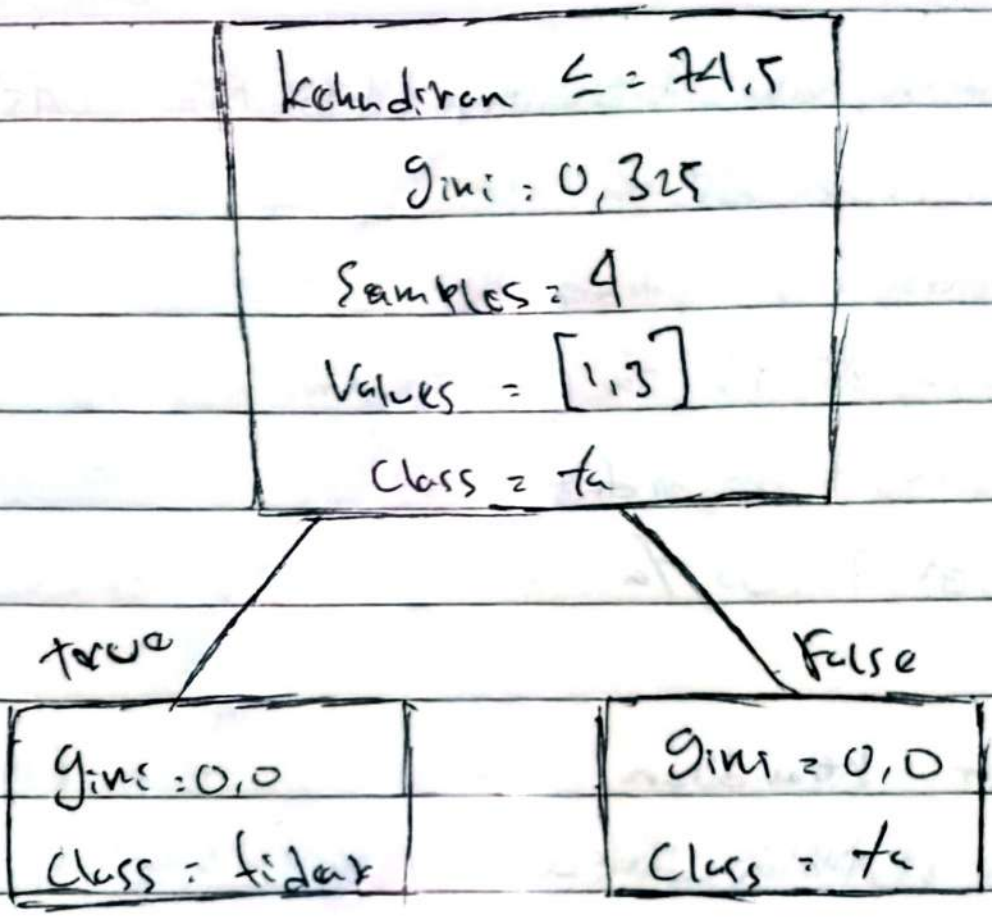

evaluasi perbedaan

ROC & AUC

test_size : 0,2

80 - 20

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Evaluasi kerja klasifikasi

→ Confusion matrix

	prediksi (lulus)	prediksi (tidak)
asli (lulus)	TP	FN
asli (tidak)	FP	TN

Evaluasi
- Akurasi
- Prosisi P
- Recall N
- F1_Score

Data mining → Pola
- klasifikasi → label → Tujuan
  branding
- klasterisasi
- asosiasi