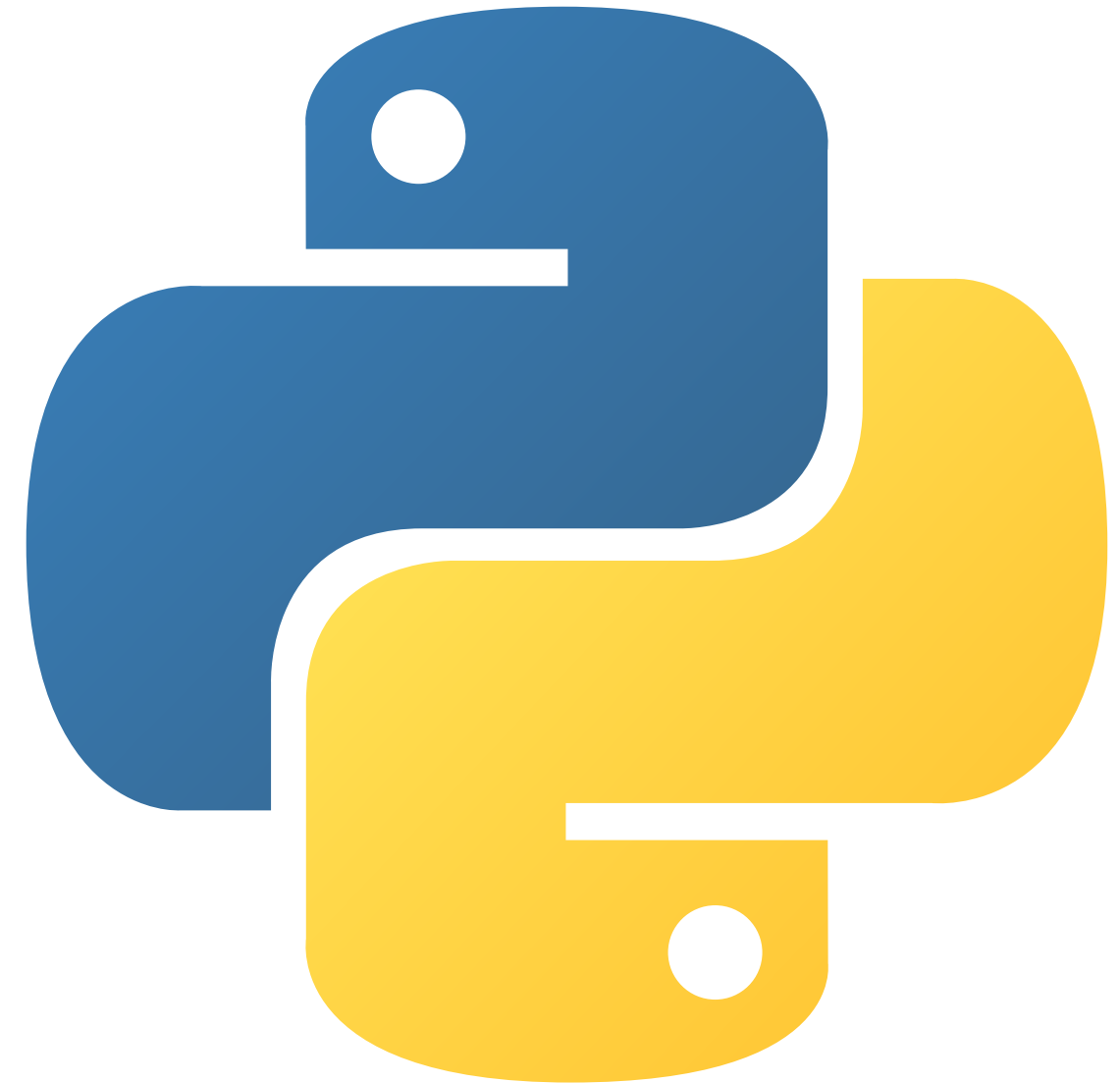
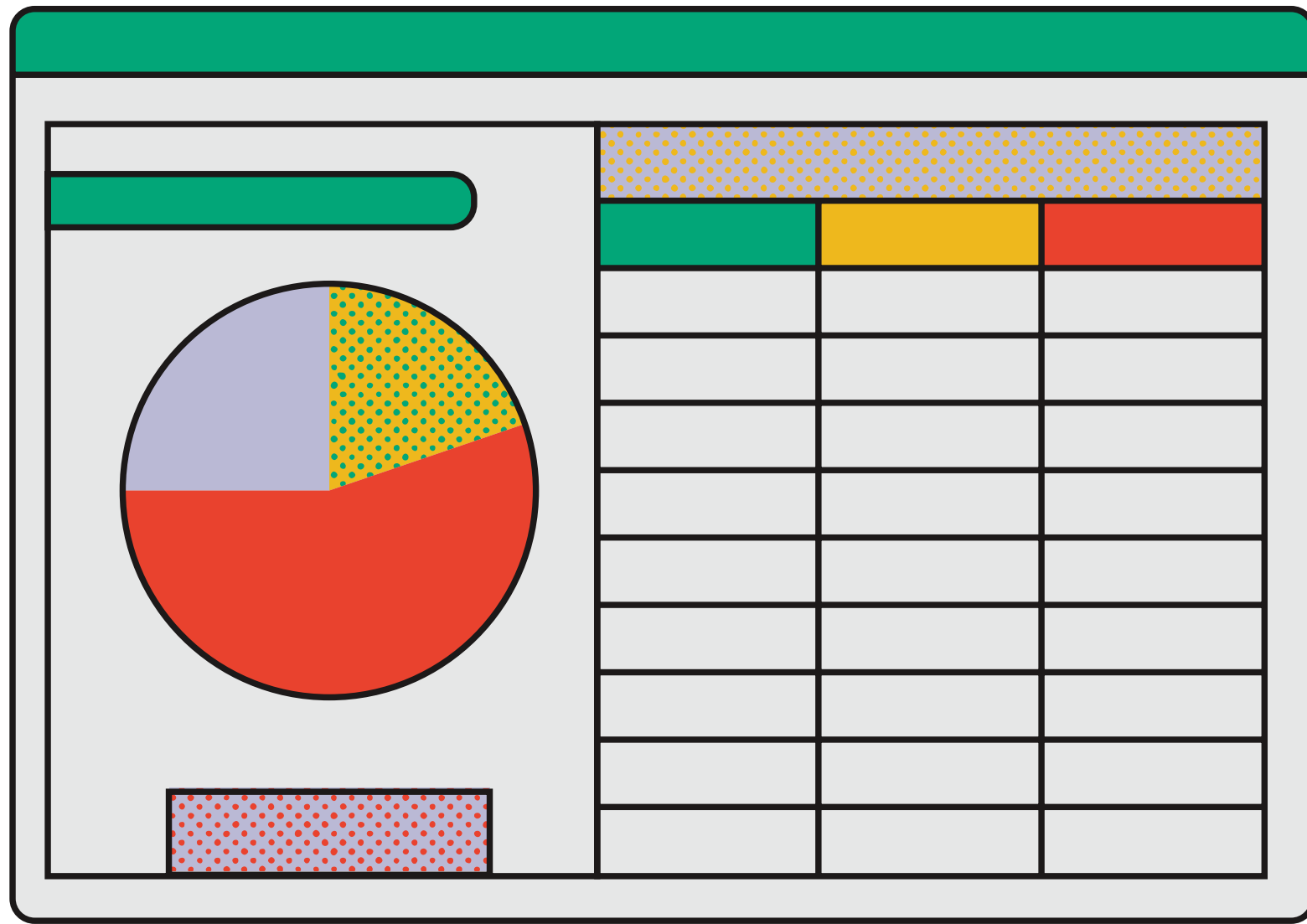


ANALISIS DATA

Python & SpreadSheet



Pengantar



01.

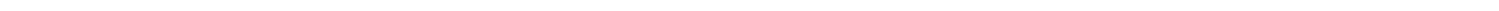
Memahami formula atau rumus pada Google Spreadsheet untuk mengelola dan menganalisis data.

02.

Memahami penggunaan bahasa pemrograman Python untuk analisis data dan pemodelan data.

03.

Kemampuan mengubah data mentah menjadi alat yang berguna dalam proses pengambilan keputusan.



Persiapan



INSTALASI

- INSTALL PYTHON
- LIBRARY PANDAS
- LIBRARY NUMPY
- LIBRARY MATPLOTLIB
- LIBRARY STREAMLIT
- LIBRARY PLOTLY
- INSTALL VSCODE
- AKUN GMAIL
- FOLDER GOOGLE DRIVE
- DATASET

Download Python



Download Python

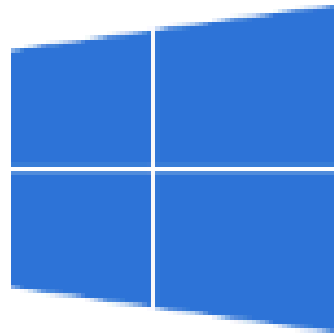
The official home of the Python Programming Language

 [Python.org /](https://python.org/)

python.org/downloads

Download Visual Studio Code

Free and built on open source. Integrated Git, debugging and extensions.



↓ Windows

Windows 10, 11

User Installer	x64	Arm64
System Installer	x64	Arm64
.zip	x64	Arm64
CLI	x64	Arm64



↓ .deb

Debian, Ubuntu

↓ .rpm

Red Hat, Fedora, SUSE

.deb	x64	Arm32	Arm64
.rpm	x64	Arm32	Arm64
.tar.gz	x64	Arm32	Arm64
Snap	Snap Store		
CLI	x64	Arm32	Arm64



↓ Mac

macOS 10.15+

.zip	Intel chip	Apple silicon	Universal
CLI	Intel chip	Apple silicon	

code.visualstudio.com/Download



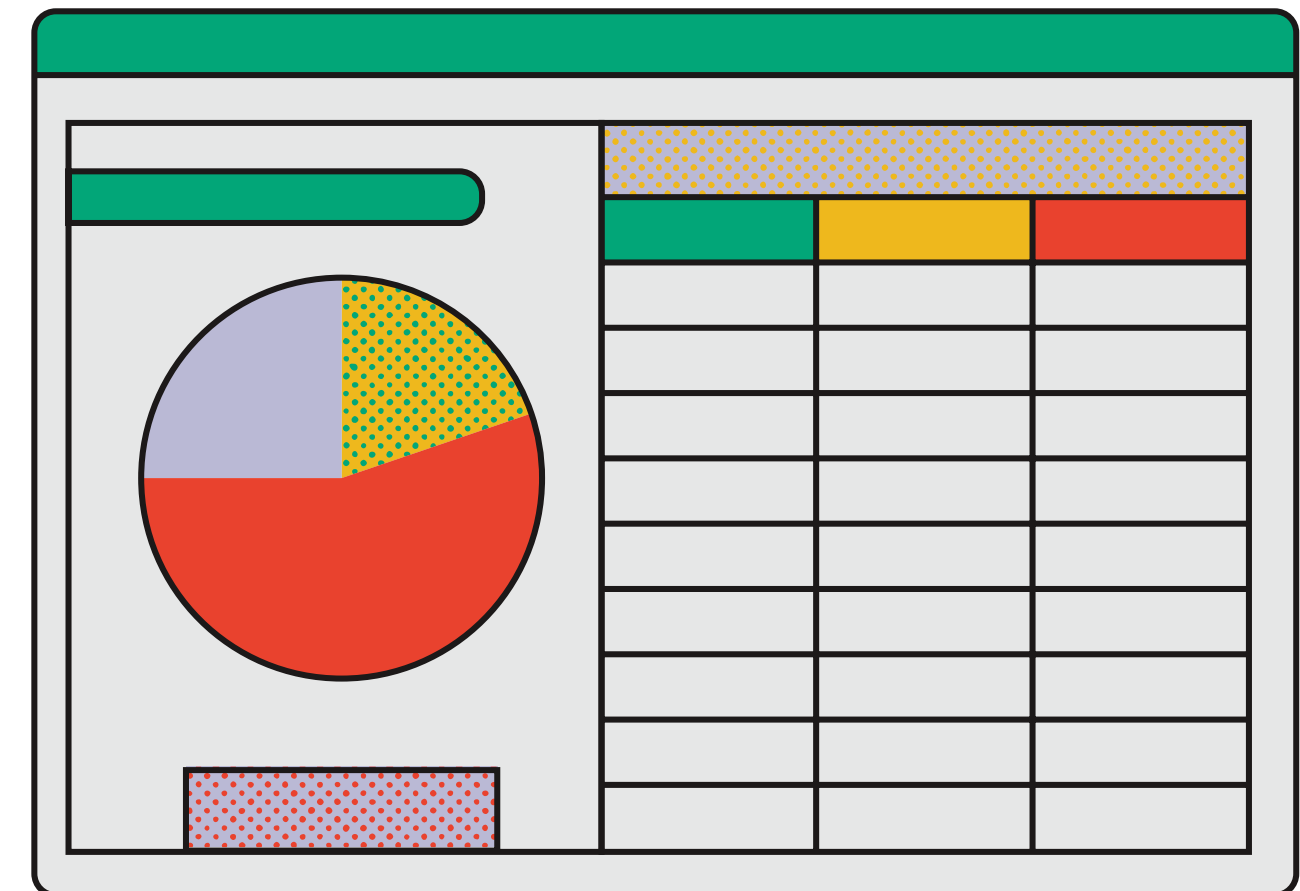
INSTALASI

- `pip install pandas`
- `pip install numpy`
- `pip install matplotlib`
- `pip install streamlit`
- `pip install plotly-express`



RUMUS SHEET

- SUM
- AVERAGE
- COUNT
- COUNTA
- IF
- SUMIF
- AVERAGEIF
- COUNTIF
- VLOOKUP
- HLOOKUP
- INDEX
- MATCH
- QUERY
- IMPORTRANGE
- ARRAYFORMULA
- FILTER
- SORT
- UNIQUE
- SPLIT
- JOIN



DASAR PYTHON

1. SINTAKS DASAR

- PENULISAN DAN STRUKTUR KODE
- INDENTASI DAN PEMFORMATAN

2. VARIABEL DAN TIPE DATA

- DEKLARASI VARIABEL
- TIPE DATA DASAR: INTEGER, FLOAT, STRING, BOOLEAN

3. OPERASI DASAR

- OPERASI ARITMATIKA
- OPERASI LOGIKA (AND, OR, NOT)
- OPERASI PERBANDINGAN (==, !=, >, <, >=, <=)

4. STRUKTUR DATA

- LIST
- TUPLE
- DICTIONARY
- SET

5. KONTROL ALUR PROGRAM

- PERNYATAAN IF, ELIF, DAN ELSE
- LOOPING DENGAN FOR DAN WHILE
- FUNGSI BREAK DAN CONTINUE

6. FUNGSI

- MENDEFINISIKAN FUNGSI DENGAN DEF
- PARAMETER DAN ARGUMEN
- NILAI KEMBALIAN (RETURN)

7. PEMROSESAN FILE

- MEMBACA DAN MENULIS FILE
- PENANGANAN FILE DENGAN OPEN, READ, WRITE, DAN CLOSE

8. MODUL DAN PAKET

- MENGIMPOR MODUL
- MENGGUNAKAN PAKET STANDAR DAN PIHAK KETIGA

9. EXCEPTION HANDLING

- PENANGANAN KESALAHAN DENGAN TRY, EXCEPT, DAN FINALLY

10. PEMROGRAMAN BERORIENTASI OBJEK (OOP)

- KELAS DAN OBJEK
- ATRIBUT DAN METODE
- INHERITANCE (PEWARISAN)
- POLIMORFISME

DASAR PANDAS

- | | |
|-------------------|----------------------|
| 1. PD.READ_CSV() | 11. DF.ISNULL() |
| 2. PD.DATAFRAME() | 12. DF.DROPNA() |
| 3. DF.HEAD() | 13. DF.FILLNA() |
| 4. DF.TAIL() | 14. DF.DROP() |
| 5. DF.INFO() | 15. DF.RENAME() |
| 6. DF.DESCRIBE() | 16. DF.SET_INDEX() |
| 7. DF.COLUMNS | 17. DF.RESET_INDEX() |
| 8. DF.INDEX | 18. DF.SORT_VALUES() |
| 9. DF.SHAPE | 19. DF.LOC[] |
| 10. DF.DTYPES | 20. DF.ILOC[] |



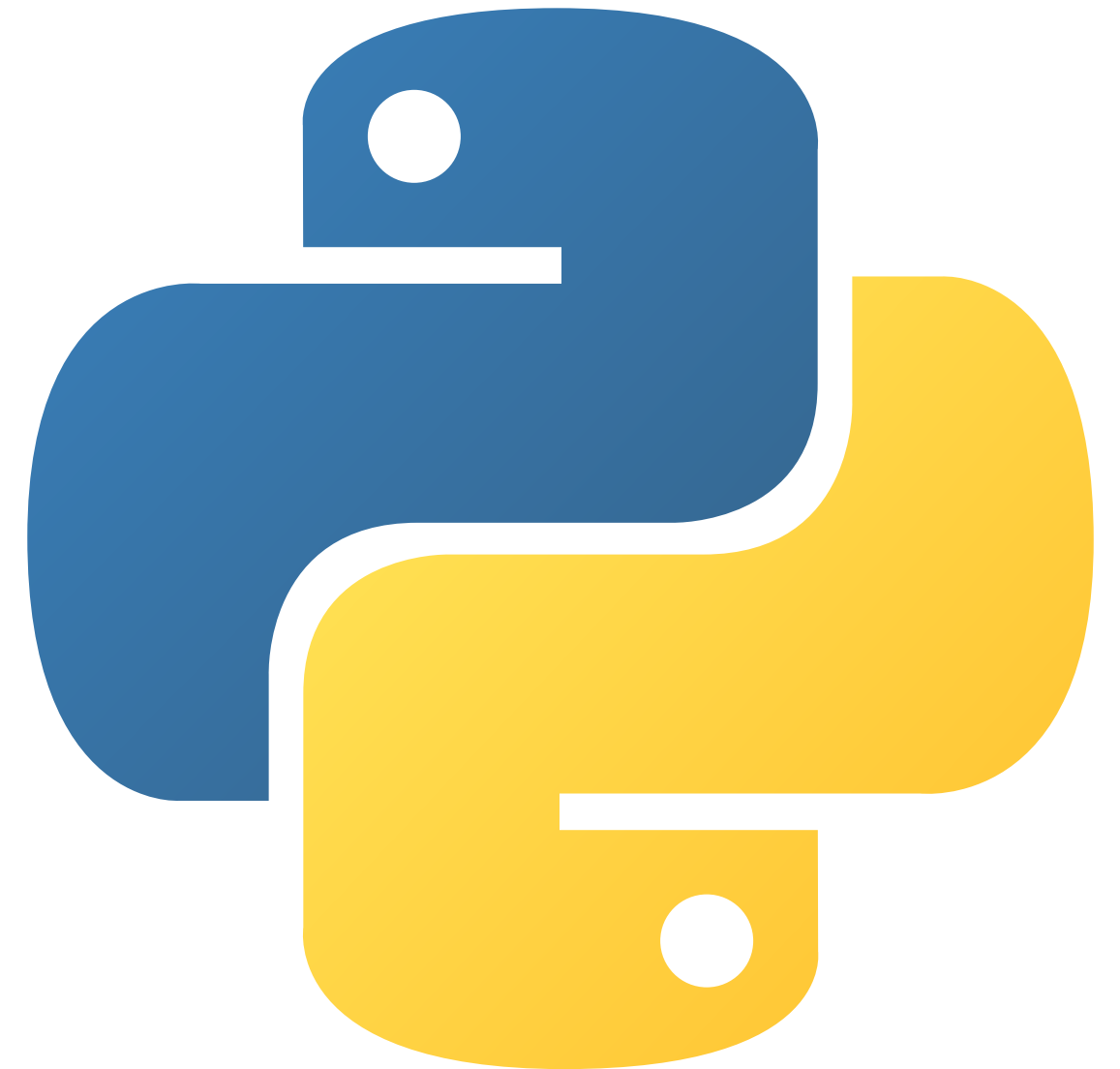
DASAR NUMPY

- | | |
|-----------------------|-------------------------|
| 1. NP.ARRAY() | 11. NP.RANDOM.RANDINT() |
| 2. NP.ZEROS() | 12. NP.RESHAPE() |
| 3. NP.ONES() | 13. NP.TRANSPOSE() |
| 4. NP.EMPTY() | 14. NP.CONCATENATE() |
| 5. NP.FULL() | 15. NP.VSTACK() |
| 6. NP.EYE() | 16. NP.HSTACK() |
| 7. NP.ARANGE() | 17. NP.SPLIT() |
| 8. NP.Linspace() | 18. NP.MEAN() |
| 9. NP.RANDOM.RAND() | 19. NP.MEDIAN() |
| 10. NP.RANDOM.RANDN() | 20. NP.STD() |



DASAR MATPLOTLIB

1. PLOT()
2. SCATTER()
3. BAR()
4. HIST()
5. BOXPLOT()
6. PIE()
7. ERRORBAR()
8. IMSHOW()
9. CONTOUR()
10. CONTOURF()
11. PCOLOR()
12. QUIVER()
13. STREAMPLOT()
14. FILL()
15. POLAR()
16. HEXBIN()
17. LOGLOG()
18. SEMILOGX()
19. SEMILOGY()
20. SUBPLOTS()



DASAR PLOTLY

- | | |
|-------------------|-----------------------------|
| 1. PX.SCATTER | 11. PX.LINE_3D |
| 2. PX.LINE | 12. PX.SCATTER_MATRIX |
| 3. PX.BAR | 13. PX.PARALLEL_COORDINATES |
| 4. PX.HISTOGRAM | 14. PX.PARALLEL_CATEGORIES |
| 5. PX.BOX | 15. PX.DENSITY_CONTOUR |
| 6. PX.VIOLIN | 16. PX.DENSITY_HEATMAP |
| 7. PX.PIE | 17. PX.AREA |
| 8. PX.SUNBURST | 18. PX.FUNNEL |
| 9. PX.TREEMAP | 19. PX.FUNNEL_AREA |
| 10. PX.SCATTER_3D | 20. PX.TIMELINE |



DASAR STREAMLIT

- | | |
|--------------------|------------------------|
| 1. ST.TITLE() | 11. ST.AREA_CHART() |
| 2. ST.HEADER() | 12. ST.MAP() |
| 3. ST.SUBHEADER() | 13. ST.IMAGE() |
| 4. ST.TEXT() | 14. ST.FILE_UPLOADER() |
| 5. ST.MARKDOWN() | 15. ST.SIDEBAR() |
| 6. ST.WRITE() | 16. ST.BUTTON() |
| 7. ST.DATAFRAME() | 17. ST.CHECKBOX() |
| 8. ST.TABLE() | 18. ST.RADIO() |
| 9. ST.LINE_CHART() | 19. ST.SELECTBOX() |
| 10. ST.BAR_CHART() | 20. ST.SLIDER() |





MAKASIH GAIZZ