

# **LAPORAN**

## **PRAKTIKUM BIG DATA ANALYTIC**

### **Pertemuan Ke - 1**



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## Dasar Teori

**Python** adalah Bahasa pemrograman komputer serta peranti penerjemah (interpreter) untuk menjalankan / mengeksekusi source code yang dibuat menggunakan Bahasa pemrograman Python.

**Anaconda** adalah platform bahasa pemrograman Python yang bersifat open-source. Yang bertujuan untuk menyederhanakan manajemen paket dan penyebaran. Anaconda memiliki package installer yang cukup handal dan memiliki package yang lengkap dan terupdate. Anaconda sangat direkomendasikan ketika menggunakan Python sebagai bahasa untuk machine learning.

## Jupyter Notebook

Anaconda memiliki beberapa editor seperti Jupyter Notebook, QT Console, Spyder, VS Code, Glueviz, Orange 3. Salah satu kelebihan Anaconda adalah adanya Jupyter Notebook. Jupyter Notebook merupakan editor dalam bentuk web aplikasi di localhost komputer. Kelebihan utama editor ini yaitu user friendly dan mudah digunakan. Editor ini berbasis web dan dijalankan di localhost komputer. Jupyter dapat mendokumentasikan sebuah pekerjaan, dimana coding dan dokumentasi bisa dilakukan dalam satu page dan disimpan dalam bentuk presentasi yang menarik.

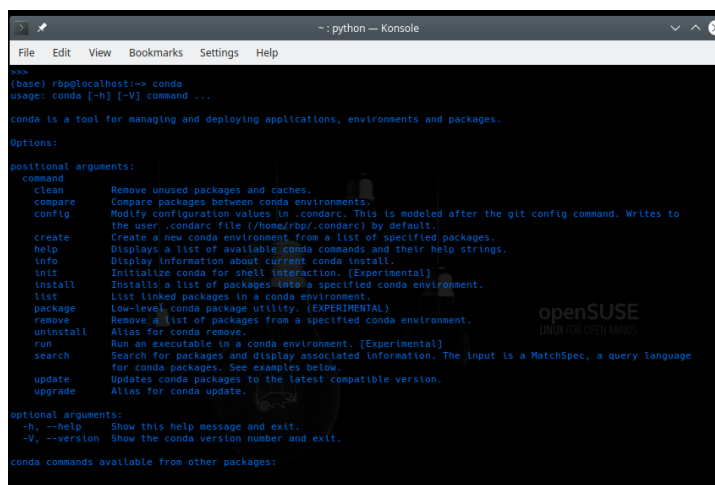
## Kebutuhan Alat

### 1. Python (Anaconda / Miniconda)

### 2. Jupyter Notebook

## Langkah – Langkah dalam praktikum

Langkah pertama kita harus install python / anaconda di laptop kita. Kebetulan di laptop saya menggunakan Opensuse Leap 15.3 dan sudah terinstall python dan anaconda.



```
python -- Konsole
File Edit View Bookmarks Settings Help

(base) rbp@localhost:~$ conda
usage: conda [-h] [-V] command ...

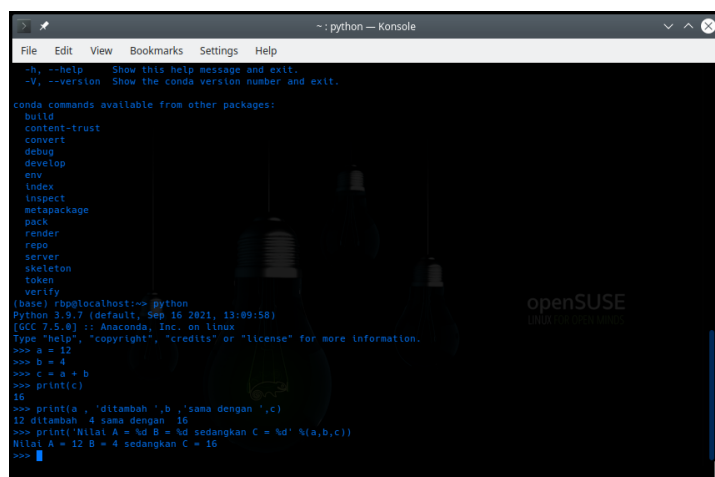
conda is a tool for managing and deploying applications, environments and packages.

Options:
positional arguments:
  command
    clean      Remove unused packages and caches.
    compare    Compare packages between conda environments.
    config     Modify configuration values in .condarc. This is modeled after the git config command. Writes to the user .condarc file (/home/rbp/.condarc) by default.
    create     Create a new conda environment from a list of specified packages.
    help       Displays a list of available conda commands and their help strings.
    info       Display information about current conda install.
    init       Initialize conda for shell interaction. [Experimental]
    list       List installed packages in a specified conda environment.
    package    Low-level conda package utility. [EXPERIMENTAL]
    remove     Remove a list of packages from a specified conda environment.
    uninstall  Alias for conda remove.
    run        Run an executable in a conda environment. [Experimental]
    search     Search for packages and display associated information. The input is a MatchSpec, a query language for conda packages. See examples below.
    update     Updates conda packages to the latest compatible version.
    upgrade    Alias for conda update.

optional arguments:
  -h, --help            Show this help message and exit.
  -V, --version          Show the conda version number and exit.

conda commands available from other packages:
```

Langkah selanjutnya buka python dengan mengetikan python di terminal :



```
python -- Konsole
File Edit View Bookmarks Settings Help

-h, --help            Show this help message and exit.
-V, --version          Show the conda version number and exit.

conda commands available from other packages:
build
content-trust
convert
debug
develop
env
index
inspect
metapackage
pack
render
repo
server
skeleton
token
verify

(base) rbp@localhost:~$ python
Python 3.9.7 (default, Sep 16 2021, 13:09:58)
[GCC 7.5.0] :: Anaconda, Inc. on linux
Type "help", "copyright", "credits" or "license()" for more information.
>>> a = 12
>>> b = 4
>>> c = a + b
>>> print(c)
16
>>> print(a, 'ditambah ', b, 'sama dengan ', c)
12 ditambah 4 sama dengan 16
>>> print('Nilai A = %d B = %d sedangkan C = %d' % (a,b,c))
Nilai A = 12 B = 4 sedangkan C = 16
>>>
```

Kemudian kita mencoba mempraktikan nomor 4 sampai dengan 7

4. 

```
>>> a = 12
>>> b = 4
>>> c = a + b
>>> print(c)
16
```
5. 

```
>>> print(a , 'ditambah ',b ,'sama dengan ',c)
12 ditambah 4 sama dengan 16
```
6. 

```
>>> print('Nilai A = %d B = %d sedangkan C = %d' %(a,b,c))
Nilai A = 12 B = 4 sedangkan C = 16
>>> nama = 'Bondan'
>>> teman = 'Winarno'
>>> print('%s berteman dengan %s' %(nama, teman))
Bondan berteman dengan Winarno
>>>
```
7. 

```
>>> print (21+22)
43
>>> print (34-14)
20
>>> print (2*3)
6
>>> print(21/2)
10.5
>>> print(21.00/2.00)
10.5
>>> print(21%2)
1
>>> print(21//2)
10
>>> print(21/2)
10.5
>>> print(2 > 3)
False
>>> print(5 < 6)
True
>>> print(7 != 8)
True
>>> print(7 == 8)
False
>>> print((2 > 3) & (4 < 7))
False
>>> print((2 > 3) | (4 < 7))
True
```

## Screenshoot Program

```
12 ditambah 4 sama dengan 16
>>> print('Nilai A = %d B = %d sedangkan C = %d' %(a,b,c))
Nilai A = 12 B = 4 sedangkan C = 16
>>> nama = 'Bondan'
>>> teman = 'Winarno'
>>> print('s berteman dengan %s' %(nama, teman))
Bondan berteman dengan Winarno
>>>
```

```
File Edit View Bookmarks Settings Help
~: python — Konsole

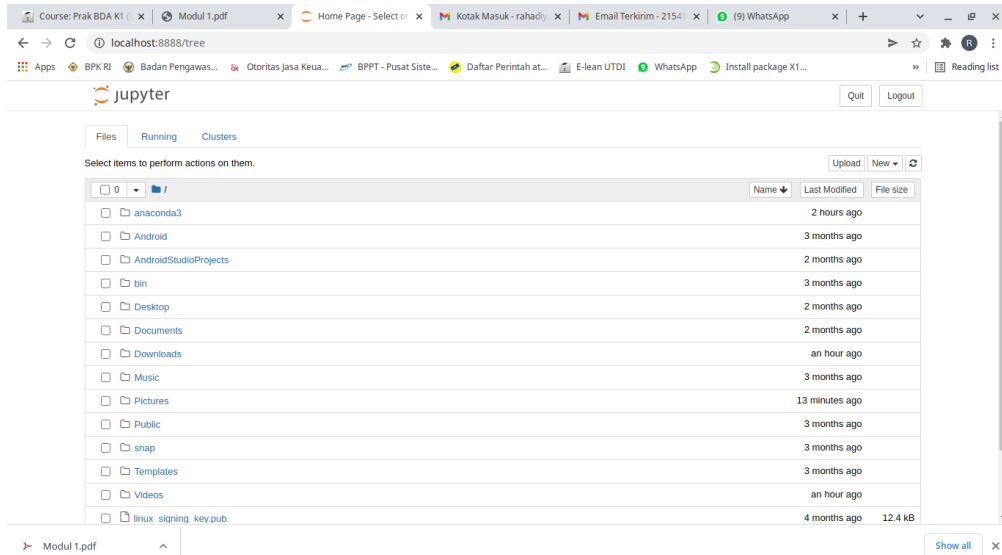
Nilai A = 12 B = 4 sedangkan C = 16
>>> nama = 'Bondan'
>>> teman = 'Winarno'
>>> print('s berteman dengan %s' %(nama, teman))
Bondan berteman dengan Winarno
>>> print(21+22)
43
>>> print(34-14)
20
>>> print(2+3)
6
>>> print(21/2)
10.5
>>> print(21.00/2.00)
10.5
>>> print(21%2)
1
>>> print(21//2)
10
>>> print(21/2)
10.5
>>> print(2 > 3)
False
>>> print(5 < 6)
True
>>> print(7 != 8)
True
>>> print(7 == 8)
False
>>> print((2 > 3) & (4 < 7))
False
>>> print((2 > 3) | (4 < 7))
True
>>>
```

Kemudian kita membuka Jupyter Notebook dengan mengetikan 'jupyter notebook' pada terminal/console dan akan muncul tampilan seperti dibawah ini pada browser :

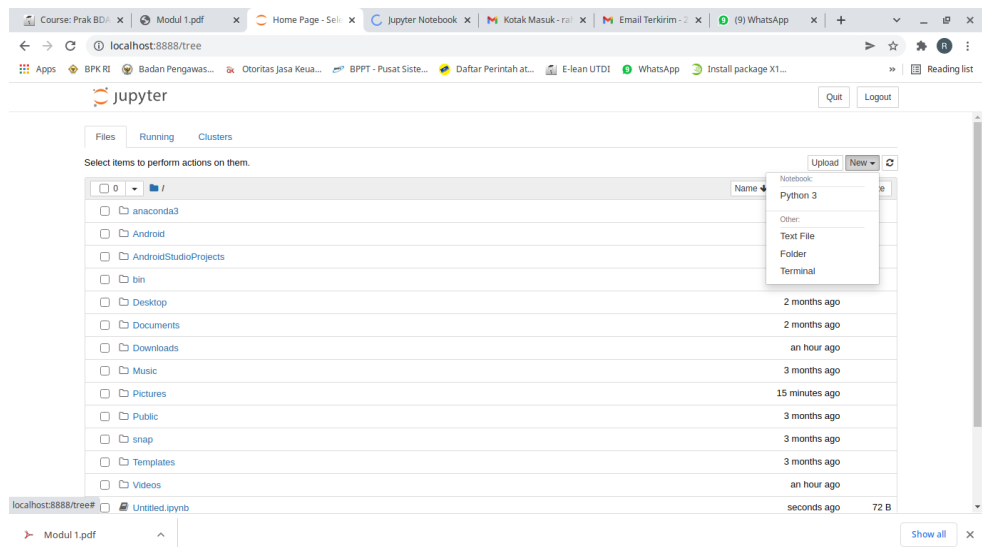
```
File Edit View Bookmarks Settings Help
~: jupyter — Konsole

>>> print(2 > 3)
False
>>> print(5 < 6)
True
>>> print(7 != 8)
True
>>> print(7 == 8)
False
>>> print((2 > 3) & (4 < 7))
False
>>> print((2 > 3) | (4 < 7))
True
>>> exit()
Use exit() or Ctrl-D (i.e. EOF) to exit
>>> exit()
(base) rbp@localhost:~$ jupyter notebook
[I 12:51:45.987 NotebookApp] Writing notebook server cookie secret to /home/rbp/.local/share/jupyter/runtime/notebook_cookie_secret
[I 2022-02-20 12:51:54.831 LabApp] JupyterLab extension loaded from /home/rbp/anaconda3/lib/python3.9/site-packages/jupyterlab
[I 2022-02-20 12:51:54.831 LabApp] JupyterLab application directory is /home/rbp/anaconda3/share/jupyter/lab
[I 12:51:54.838 NotebookApp] Serving notebooks from local directory: /home/rbp
[I 12:51:54.839 NotebookApp] Jupyter Notebook 6.4.5 is running at:
[I 12:51:54.839 NotebookApp] http://localhost:8888/?token=64aa7f9e721e66288f57458245de0bbdb2b218a94b2393a1
[I 12:51:54.839 NotebookApp] or http://127.0.0.1:8888/?token=64aa7f9e721e66288f57458245de0bbdb2b218a94b2393a1
[I 12:51:54.839 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
[C 12:51:55.079 NotebookApp]

To access the notebook, open this file in a browser:
file:///home/rbp/.local/share/jupyter/runtime/nbserver-5558-open.html
Or copy and paste one of these URLs:
http://localhost:8888/?token=64aa7f9e721e66288f57458245de0bbdb2b218a94b2393a1
or http://127.0.0.1:8888/?token=64aa7f9e721e66288f57458245de0bbdb2b218a94b2393a1
```



Kemudian Klik Tombol New pada pojok Kanan atas dan Select Python 3



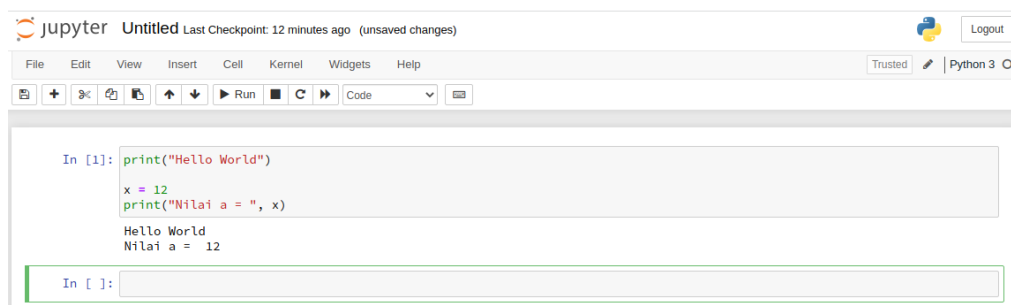
Praktik

**11. Membuat variabel dan melakukan pemanggilan variabel Mengetikan Scrp/Perintah pada Jupyter**  
`print("Hello World")`

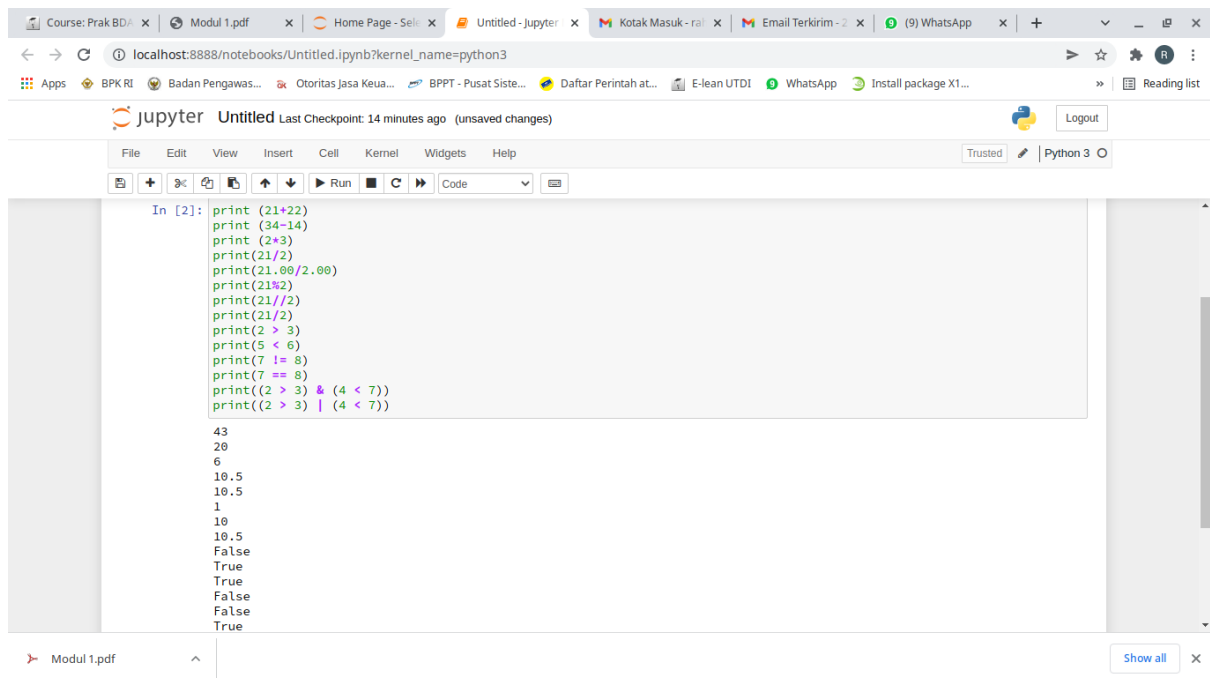
`x = 12`

`print("Nilai a = ", x)`

hasilnya :



12. Selanjutnya kita mempraktikkan apa yang sudah kita kerjakan di atas pada jupyter notebook.



The screenshot shows a Jupyter Notebook interface in a web browser. The browser tabs include 'Course: Prak BD', 'Modul 1.pdf', 'Home Page - Sel...', 'Untitled - Jupyter', 'Kotak Masuk - ra...', 'Email Terkirim - 2', '(9) WhatsApp', and '+'. The address bar shows 'localhost:8888/notebooks/Untitled.ipynb?kernel\_name=python3'. The Jupyter interface has a menu bar (File, Edit, View, Insert, Cell, Kernel, Widgets, Help) and a toolbar with icons for file operations, running, and saving. The code cell contains the following Python code:

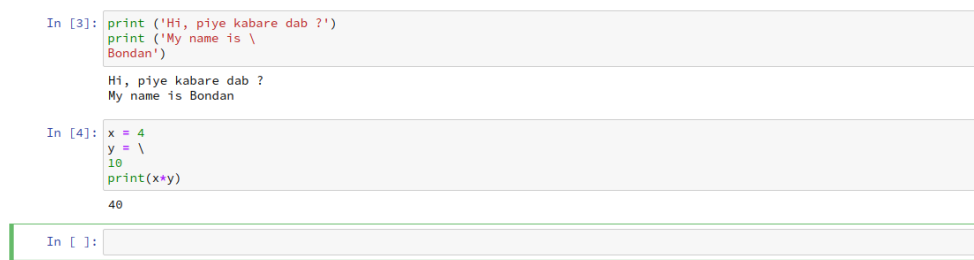
```
In [2]: print (21+22)
print (34-14)
print (2*3)
print (21/2)
print(21.00/2.00)
print(21%2)
print(21//2)
print(21/2)
print(2 > 3)
print(5 < 6)
print(7 != 8)
print(7 == 8)
print((2 > 3) & (4 < 7))
print((2 > 3) | (4 < 7))
```

The output of the code is displayed below the code cell:

```
43
20
6
10.5
10.5
1
10
10.5
False
True
True
False
False
True
```

At the bottom of the interface, there is a file browser showing 'Modul 1.pdf' and a 'Show all' button.

13. Contoh penggunaan multiline statements



The screenshot shows two code cells in a Jupyter Notebook. The first code cell contains the following Python code:

```
In [3]: print ('Hi, piye kabare dab ?')
print ('My name is \
Bondan')
```

The output of the first code cell is:

```
Hi, piye kabare dab ?
My name is Bondan
```

The second code cell contains the following Python code:

```
In [4]: x = 4
y = \
10
print(x*y)
```

The output of the second code cell is:

```
40
```

Below the second code cell, there is an empty code cell with the prompt 'In [ ]:'.

**Latihan dan Tugas >>**

## LATIHAN DAN TUGAS

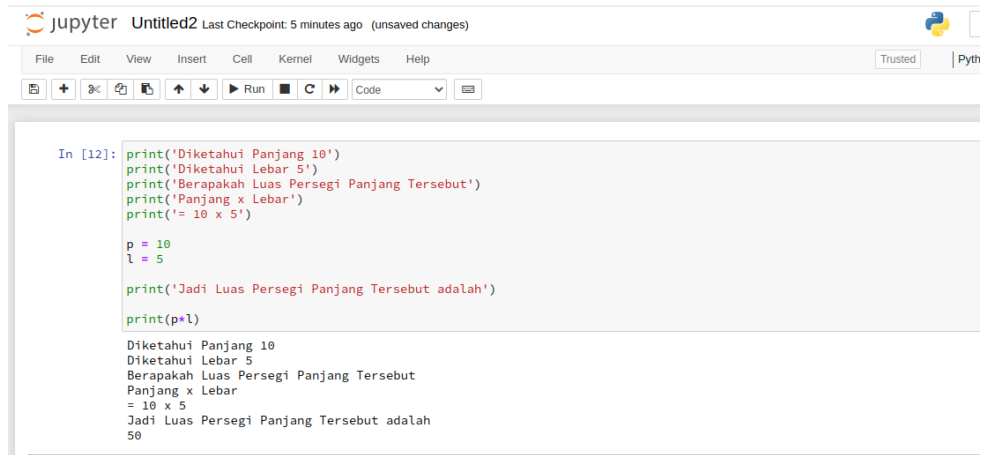
Buatlah program python menggunakan Jupyter Notebook untuk :

a. Menghitung luas persegi Panjang

b. Menghitung luas segitiga

Jawab

a.



```

jupyter Untitled2 Last Checkpoint: 5 minutes ago (unsaved changes)
File Edit View Insert Cell Kernel Widgets Help Trusted Python

In [12]: print('Diketahui Panjang 10')
          print('Diketahui Lebar 5')
          print('Berapakah Luas Persegi Panjang Tersebut')
          print('Panjang x Lebar')
          print('=' 10 x 5')

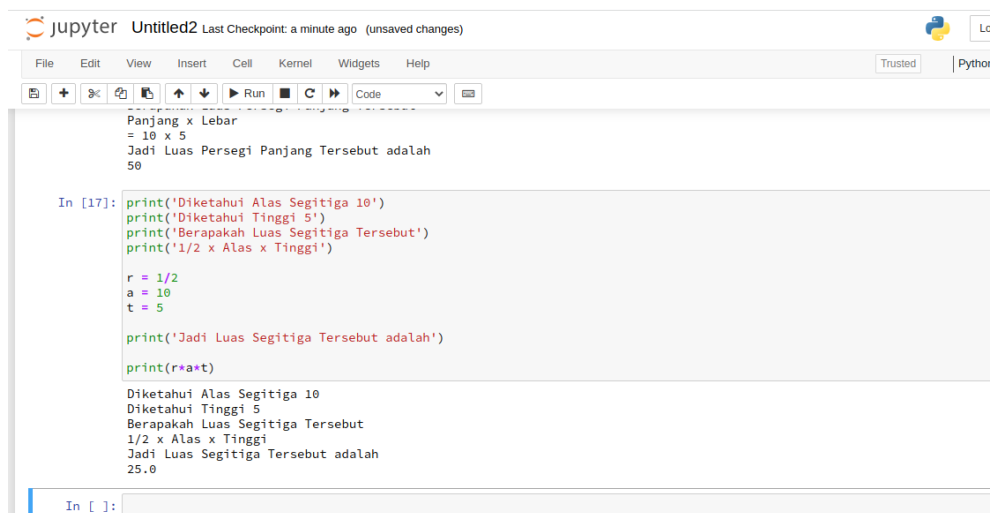
          p = 10
          l = 5

          print('Jadi Luas Persegi Panjang Tersebut adalah')
          print(p*l)

Diketahui Panjang 10
Diketahui Lebar 5
Berapakah Luas Persegi Panjang Tersebut
Panjang x Lebar
= 10 x 5
Jadi Luas Persegi Panjang Tersebut adalah
50

```

b.



```

jupyter Untitled2 Last Checkpoint: a minute ago (unsaved changes)
File Edit View Insert Cell Kernel Widgets Help Trusted Python

Panjang x Lebar
= 10 x 5
Jadi Luas Persegi Panjang Tersebut adalah
50

In [17]: print('Diketahui Alas Segitiga 10')
          print('Diketahui Tinggi 5')
          print('Berapakah Luas Segitiga Tersebut')
          print('1/2 x Alas x Tinggi')

          r = 1/2
          a = 10
          t = 5

          print('Jadi Luas Segitiga Tersebut adalah')
          print(r*a*t)

Diketahui Alas Segitiga 10
Diketahui Tinggi 5
Berapakah Luas Segitiga Tersebut
1/2 x Alas x Tinggi
Jadi Luas Segitiga Tersebut adalah
25.0

In [ ]:

```

Demikian laporan dan tugas Pertemuan Pertama yang dapat saya rangkum dan saya kerjakan, saya dapat mempraktekkan penggunaan python (editor, syntax, struktur, variabel dan struktur data, control statement, function)

=====TerimaKasih=====