

TUGAS INDIVIDU V (ARTIFICIAL INTELLIGENCE)

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1. Proses Flowgorithm dan VS Code

Persegi

The image displays a computer screen with three main windows open:

- Flowchart Window (Top Left):** A flowchart titled "Persegi - Flowgorithm". It starts with a "Main" terminal, followed by an "Integer v, w, x" declaration. The process flow is: "Output 'Masukan Panjang Sisi Persegi'" (green parallelogram) → "Input v" (blue parallelogram) → "x = 4 * v" (yellow rectangle) → "Output 'Maka Hasil Keliling Persegi = %x'" (green parallelogram) → "w = v * v" (yellow rectangle) → "Output 'Maka Hasil Luas Persegi Adalah = %w'" (green parallelogram) → "End" (purple oval).
- Console Window (Top Middle):** Shows the execution of the program. It displays the prompt "Masukan Panjang Sisi Persegi" followed by the input "5". The output shows "Maka Hasil Keliling Persegi = 20" and "Maka Hasil Luas Persegi Adalah = 25".
- Source Code Viewer (Top Right):** Displays the Python code for the program:

```
0 print("Masukan Panjang Sisi Persegi")
1 v = int(input())
2 x = 4 * v
3 print("Maka Hasil Keliling Persegi = " + str(x))
4 w = v * v
5 print("Maka Hasil Luas Persegi Adalah = " + str(w))
```
- VS Code Editor (Bottom):** The editor shows the same Python code as the Source Code Viewer. The terminal at the bottom shows the command prompt running the script, with the same input and output as the console window.

2. Proses Flowgorithm dan VS Code

Persegi Panjang

The image displays two software environments side-by-side, illustrating the process of developing a program for calculating the perimeter and area of a rectangle.

Flowgorithm (Left): The flowchart starts with a 'Main' terminal, followed by a process box 'Integer v, w, x, y'. It then proceeds to an output box 'Output "Masukan Panjang"', followed by an input box 'Input v'. This is followed by another output box 'Output "Masukan Lebar"', then an input box 'Input w'. The next process box is 'y = 2 * (v + w)', followed by an output box 'Output "Maka Hasil Keliling Persegi Panjang Adalah = %d"', then a process box 'x = v * w', followed by an output box 'Output "Maaka Hasil Luas Persegi Panjang Adalah = %d"', and finally an 'End' terminal. The console window below the flowchart shows the execution results: 'Masukan Panjang' (4), 'Masukan Lebar' (5), 'Maka Hasil Keliling Persegi Panjang Adalah = 18', and 'Maaka Hasil Luas Persegi Panjang Adalah = 20'.

VS Code (Right): The Source Code Viewer shows the Python code corresponding to the flowchart. The code is as follows:

```
0 print("Masukan Panjang")
1 v = int(input())
2 print("Masukan Lebar")
3 w = int(input())
4 y = 2 * (v + w)
5 print("Maka Hasil Keliling Persegi Panjang Adalah = " + str(y))
6 x = v * w
7 print("Maaka Hasil Luas Persegi Panjang Adalah = " + str(x))
```

The VS Code interface also shows the Explorer pane with the file 'Main.py' selected, and the Terminal pane displaying the execution output, which matches the console window in Flowgorithm.

3. Proses Flowgorithm dan VS Code

Jajar Genjang

The image displays two software environments used for developing a program to calculate the area of a parallelogram (Jajar Genjang).

Flowgorithm (Top): This flowchart illustrates the logic of the program. It starts with an output box "Output 'Masukan Panjang Sisi A'", followed by an input box "Input a". Then, it outputs "Sisi A = Sisi B, Maka B = " + a, assigns $b = a$, and outputs "Masukan Panjang Sisi C". This is followed by an input box "Input c", an output box "Sisi C = Sisi D, Maka D = " + c, an assignment $d = c$, an output box "Masukan Tinggi Jajar Genjang", an input box "Input e", an assignment $f = a * b + c * d$, an output box "Maka Hasil Keliling Dari Jajar Genjang Adalah " + f, an assignment $g = a * e$, an output box "Maka Luas Jajar Genjang Adalah " + g, and finally an output box "Maka Luas Jajar Genjang Adalah '15'".

VS Code (Bottom): The Python code in the editor matches the logic in the flowchart. The terminal output shows the execution results, including the input values and the calculated perimeter and area.

```
0 print("Masukan Panjang Sisi A")
1 a = int(input())
2 print("Sisi A = Sisi B, Maka B = " + str(a))
3 b = a
4 print("Masukan Panjang Sisi C")
5 c = int(input())
6 print("Sisi C = Sisi D, Maka D = " + str(c))
7 d = c
8 print("Masukan Tinggi Jajar Genjang")
9 e = int(input())
10 f = a + b + c + d
11 print("Maka Hasil Keliling Dari Jajar Genjang Adalah " + str(f))
12 g = a * e
13 print("Maka Luas Jajar Genjang Adalah " + str(g))
```

Terminal Output (VS Code):

```
c:\Users\ZASKIA ADZKIA SHAMUJ\Documents\Tutorial python\00 Template\Main.py
Masukan Panjang Sisi A
3
Sisi A = Sisi B, Maka B = 3
Masukan Panjang Sisi C
4
Sisi C = Sisi D, Maka D = 4
Masukan Tinggi Jajar Genjang
5
Maka Hasil Keliling Dari Jajar Genjang Adalah 14
Maka Luas Jajar Genjang Adalah 15
PS C:\Users\ZASKIA ADZKIA SHAMUJ\Documents\Tutorial python\00 Template>
```

4. Proses Flowgorithm dan VS Code

Segitiga

The image displays two software interfaces side-by-side, illustrating the process of developing a program to calculate the perimeter and area of a triangle.

Top Interface: Jajar Genjang - Flowgorithm

This window shows a flowchart for a program that calculates the perimeter and area of a triangle. The steps are as follows:

- Integer x, w, x, y, z
- Real $z1$
- Output "Masukan Panjang Sisi A"
- Input x
- Output "Masukan Panjang Sisi B"
- Input w
- Output "Masukan Panjang Sisi C"
- Input x
- Output "Masukan Tinggi Segitiga"
- Input y
- $z = v + w + x$
- $z1 = 1/2 * v * y$
- Output "Maka Keliling Segitiga Adalah " & z
- Output "Maka Luas Segitiga Adalah " & $z1$

The flowchart is connected to a console window showing the execution process with inputs and outputs. The inputs are: Masukan Panjang Sisi A (4), Masukan Panjang Sisi B (2), Masukan Panjang Sisi C (2), and Masukan Tinggi Segitiga (3). The outputs are: Maka Keliling Segitiga Adalah 8 and Maka Luas Segitiga Adalah 6.

Bottom Interface: Visual Studio Code

This window shows the same Python code as the flowchart, written in a text editor. The code is as follows:

```
1 print("Masukan Panjang Sisi A")
2 v = int(input())
3 print("Masukan Panjang Sisi B")
4 w = int(input())
5 print("Masukan Panjang Sisi C")
6 x = int(input())
7 print("Masukan Tinggi Segitiga")
8 y = int(input())
9 z = v + w + x
10 z1 = float(1) / 2 * v * y
11 print("Maka Keliling Segitiga Adalah " + str(z))
12 print("Maka Luas Segitiga Adalah " + str(z1))
13
```

The bottom panel of VS Code shows the terminal output, which matches the console window in the top interface:

```
c:\Users\ZASKIA ADZKIA SHAMIM\Documents\Tutorial python\00 Template/Main.py
Masukan Panjang Sisi A
4
Masukan Panjang Sisi B
2
Masukan Panjang Sisi C
2
Masukan Tinggi Segitiga
3
Maka Keliling Segitiga Adalah 8
Maka Luas Segitiga Adalah 6.0
PS C:\Users\ZASKIA ADZKIA SHAMIM\Documents\Tutorial python\00 Template>
```

5. Proses Flowgorithm dan VS Code

Belah Ketupat

The image displays two software environments used for developing and running a Python program to calculate the perimeter and area of a rhombus.

Flowgorithm (Top): The Flowgorithm window shows a flowchart for the program. The steps are: Main, Integer v, w, x, y, z, Output "Masukan Panjang Sisi", Input v, Output "Masukan Diagonal 1 Belah Ketupat", Input x, Output "Masukan Diagonal 2 Belah Ketupat", Input y, and w = 4 * v. The Console window shows the input values: 4, 4, and 2. The Source Code Viewer shows the Python code:

```
0 print("Masukan Panjang Sisi")
1 v = int(input())
2 print("Masukan Diagonal 1 Belah Ketupat")
3 x = int(input())
4 print("Masukan Diagonal 2 Belah Ketupat")
5 y = int(input())
6 w = 4 * v
7 z = float(1) / 2 * x * y
8 print("Maka Keliling Belah Ketupat Adalah " + str(w))
9 print("Maka Luas Belah Ketupat Adalah " + str(z))
```

VS Code (Bottom): The VS Code window shows the same Python code in the Main.py file. The Terminal window shows the output of the program:

```
PS C:\Users\ZASKIA ADZKIA SHANUM\Documents\Tutorial python\00 Template> & "C:/Users/ZASKIA ADZKIA SHANUM/AppData/Local/Programs/Python/Python310/python.exe" "c:/Users/ZASKIA ADZKIA SHANUM/Documents/Tutorial python/00 Template/Main.py"
Masukan Panjang Sisi
4
Masukan Diagonal 1 Belah Ketupat
4
Masukan Diagonal 2 Belah Ketupat
2
Maka Keliling Belah Ketupat Adalah 16
Maka Luas Belah Ketupat Adalah 4.0
PS C:\Users\ZASKIA ADZKIA SHANUM\Documents\Tutorial python\00 Template>
```

6. Proses Flowgorithm dan VS Code

Layang-Layang

The image displays two software environments used for developing a Python program to calculate the perimeter and area of a kite (Layang-Layang).

Flowgorithm (Top): This window shows a flowchart for the program. It starts with a 'Main' process, followed by a declaration of variables 'Integer a, b, c, d, e, f'. The flowchart includes input steps for 'Masukan Nilai Sisi A', 'Masukan Nilai Sisi B', 'Masukan Diagonal 1', and 'Masukan Diagonal 2'. It then calculates the perimeter using the formula $f = (a + b) \times 2$ and the area using $e = 0.5 \times c \times d$. The final outputs are 'Maka Keliling Layang layang adalah 100Keliling' and 'Maka Keliling Layang layang adalah 480Luas'.

Source Code Viewer (Top Right): This window shows the Python code corresponding to the flowchart. The code is as follows:

```
0 print("Masukan Nilai Sisi A")
1 a = int(input())
2 print("Masukan Nilai Sisi B")
3 b = int(input())
4 print("Masukan Diagonal 1")
5 c = int(input())
6 print("Masukan Diagonal 2")
7 d = int(input())
8 f = (a + b) * 2
9 e = 0.5 * c * d
10 print("Maka Keliling Layang layang adalah " + str(f) + "Keliling")
11 print("Maka Keliling Layang layang adalah " + str(e) + "Luas")
```

VS Code (Bottom): This window shows the same Python code in a text editor. The code is identical to the Source Code Viewer. The terminal output shows the program's execution with the following inputs and outputs:

```
13 Masukan Nilai Sisi A
37 Masukan Nilai Sisi B
40 Masukan Diagonal 1
24 Masukan Diagonal 2
Maka Keliling Layang layang adalah 100Keliling
Maka Keliling Layang layang adalah 480Luas
```

7. Proses Flowgorithm dan VS Code

Trapesium

The image displays the development process for a trapezoid program, showing both the Flowgorithm flowchart and the corresponding Python code in VS Code.

Flowgorithm Flowchart:

```
graph TD
    Main([Main]) --> Integer[Integer a,b,c,d,e,f]
    Integer --> OutputA[Output "Masukan Sisi Alas A"]
    OutputA --> InputA[Input a]
    InputA --> OutputB[Output "Masukan Sisi Alas B"]
    OutputB --> InputB[Input b]
    InputB --> OutputC[Output "Masukan Sisi Tinggi C"]
    OutputC --> InputC[Input c]
    InputC --> OutputD[Output "Masukan Sisi Tinggi D"]
    OutputD --> InputD[Input d]
    InputD --> ECalc[e = a+b+c+d]
    ECalc --> FCalc[f = 0.5 * (a+b) * c]
    FCalc --> OutputE[Output "Keliling " + e]
    OutputE --> OutputF[Output "Luas " + f]
    OutputF --> End([End])
```

Source Code (Python):

```
0 print("Masukan Sisi Alas A")
1 a = int(input())
2 print("Masukan Sisi Alas B")
3 b = int(input())
4 print("Masukan Sisi Tinggi C")
5 c = int(input())
6 print("Masukan Sisi Tinggi D")
7 d = int(input())
8 e = a + b + c + d
9 f = 0.5 * (a + b) * c
10 print("Keliling " + str(e))
11 print("Luas " + str(f))
```

VS Code Output:

```
1 print("Masukan Sisi Alas A")
2 a = int(input())
3 print("Masukan Sisi Alas B")
4 b = int(input())
5 print("Masukan Sisi Tinggi C")
6 c = int(input())
7 print("Masukan Sisi Tinggi D")
8 d = int(input())
9 e = a + b + c + d
10 f = 0.5 * (a + b) * c
11 print("Keliling " + str(e))
12 print("Luas " + str(f))
13
```

Terminal Output:

```
c:\Users\ZASKIA_ADZKIA_SHANUP\Documents\Tutorial python\00 Template\Main.py>
Masukan Sisi Alas A
3
Masukan Sisi Alas B
6
Masukan Sisi Tinggi C
4
Masukan Sisi Tinggi D
5
Keliling 18
Luas 18.0
PS C:\Users\ZASKIA_ADZKIA_SHANUP\Documents\Tutorial python\00 Template>
```

8. Proses Flowgorithm dan VS Code

Lingkaran

The image displays two software environments side-by-side, illustrating the process of developing a program.

Flowgorithm (Left Panel): This panel shows a flowchart for a program. The steps are as follows:

- Start (Main)
- Declare Real a
- Declare Integer b, c, d
- Assign a = 3.14
- Output "Masukan Ruas :"
- Input b
- Calculate c = 2 * a * b
- Calculate d = a * b * b
- Output "Keliling " & c
- Output "Luas " & d
- End

Source Code Viewer (Right Panel): This panel shows the corresponding Python code:

```
0 a = 3.14
1 print("Masukan Ruas :")
2 b = int(input())
3 c = 2 * a * b
4 d = a * b * b
5 print("Keliling " + str(c))
6 print("Luas " + str(d))
```

Console (Middle Panel): This panel shows the output of the program. It displays the prompt "Masukan Ruas :", the user input "21", and the calculated results: "Keliling 131" and "Luas 1384".

VS Code (Bottom Panel): This panel shows the same Python code as the Source Code Viewer, but in the context of a file named "Main.py". The code is as follows:

```
1 a = 3.14
2 print("Masukan Ruas :")
3 b = int(input())
4 c = 2 * a * b
5 d = a * b * b
6 print("Keliling " + str(c))
7 print("Luas " + str(d))
8
```

The VS Code interface also includes a terminal window at the bottom, which shows the command prompt output, including the directory path and the execution of the program.