

**LAPORAN PRAKTIKUM**

**Algoritma Pemrograman**

**MODUL 4**

**I/O, DATA TYPES & VARIABLES**



**Disusun oleh:**

**Cofa Xavier Marvel 109082500001**

**S1IF-13-04**

**PROGRAM STUDI S1 INFORMATIKA**

**FAKULTAS INFORMATIKA**

**TELKOM UNIVERSITY PURWOKERTO**

**2025**

**L**

## 1. Guided 1

### Source Code

```
package main
import
"fmt"
func
main() {
    var time, second, minute,
hour int

    fmt.Scan(&time)
        second = time % 60
minute = (time % 3600) /
60    hour = time / 3600
    fmt.Printf("%d jam %d menit %d detik", hour, minute,
second) }
```

### Screenshot program

The screenshot shows a code editor interface with a dark theme. On the left, the code file `Guided1.go` is displayed:

```
1 package main
2
3 import "fmt"
4
5 func main() {
6
7     var time, second, minute, hour int
8
9     fmt.Scan(&time)
10
11    second = time % 60
12    minute = (time % 3600) / 60
13    hour = time / 3600
14
15    fmt.Printf("%d jam %d menit %d detik", hour, minute, second)
16 }
17
```

Below the code editor is a terminal window showing the execution of the program:

```
PS C:\Code> go run "c:\Code\GoCode\Modul-4\Guided\Guided1.go"
3661
1 jam 1 menit 1 detik
PS C:\Code> go run "c:\Code\GoCode\Modul-4\Guided\Guided1.go"
7322
2 jam 2 menit 2 detik
PS C:\Code> go run "c:\Code\GoCode\Modul-4\Guided\Guided1.go"
3600
1 jam 0 menit 0 detik
PS C:\Code> [REDACTED]
```

To the right of the terminal, the program's output is shown in a separate window:

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<u>Marvel</u>	
<u>Nim</u>	: 109082500001
<u>Kelas</u>	: IF-13-04

### Deskripsi program

This program calculates the amount of time in hours, minutes, and seconds.

This program finds the number of hours by dividing the amount of second by 3600 because there are 3600 seconds in a single hour.

**The program finds the second count by the modulo of the seconds and 3600, finding the leftover seconds from calculating the hours, then divided by 60 as there are 60 seconds in a minute.**

**Then the seconds are found by the modulo of the number of seconds and 60,finding the left overs of the left overs out putting the seconds that did not make to the minutes or the hours.**

**It is the outputted using `fmt.Printf` allowing the printing of integers in conjunction of the string.**

## 2. Guided 2

### Source Code

```
package main
import
"fmt"
func main() {    var
in, p1, p2, p3 int
var out bool

fmt.Scan(&in)
    p1 = in % 10
p2 = (in / 10) % 10
p3 = in / 100

    fmt.Println(p3 < p2 && p2 < p1) }
```

### Screenshoot program

```

package main

import "fmt"

func main() {
    var in, p1, p2, p3 int
    fmt.Scan(&in)
    p1 = in % 10
    p2 = (in / 10) % 10
    p3 = in / 100
    fmt.Println(p3 < p2 && p2 < p1)
}

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```

GoCode\Modul-4\Guided\Guided2.go:7:6: declared and not used: out
PS C:\Code> go run "c:\Code\GoCode\Modul-4\Guided\Guided2.go"
# command-line arguments
GoCode\Modul-4\Guided\Guided2.go:7:6: declared and not used: out
PS C:\Code> go run "c:\Code\GoCode\Modul-4\Guided\Guided2.go"
362
false
PS C:\Code> go run "c:\Code\GoCode\Modul-4\Guided\Guided2.go"
256
true
PS C:\Code> go run "c:\Code\GoCode\Modul-4\Guided\Guided2.go"
189
true
PS C:\Code>

```

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<u>Marvel</u>	
<u>Nim</u>	: 109082500001
<u>Kelas</u>	: IF-13-04

### Deskripsi program

This program first separates the number in a variable using modulo and division All variables being integers allow the use of modulo and division.

Dividing 362 by 100 gets 3.

Dividing 362 by 10 gets 25 modulo by 10 gets 6.

Modulo 362 by 10 get 2.

By comparing the separated numbers using the [</>] greater/less than and the [&&]and operator.

Printing the result, that being a bool.

### 3. Guided 3

#### Source Code

```

package main

import "fmt"
func
main() {
    var bodyWeight, bodyHeight, bmi
float64

    fmt.Scan(&bodyWeight, &bodyHeight)
    bmi = (bodyHeight * bodyHeight) /
bodyWeight

    fmt.Printf("%.2f", bmi)
}

```

#### Screenshot program

The screenshot shows a Visual Studio Code (VS Code) interface with multiple tabs open. The active tab contains Go code for calculating BMI:

```
1 package main
2
3 import "fmt"
4
5 func main() {
6     var bodyWeight, bodyHeight, bmi float64
7
8     fmt.Scan(&bodyWeight, &bodyHeight)
9
10    bmi = bodyWeight / (bodyHeight * bodyHeight)
11
12    fmt.Printf("%.2f", bmi)
13}
14
```

Below the code editor are tabs for PROBLEMS, OUTPUT, DEBUG CONSOLE, TERMINAL, and PORTS. The TERMINAL tab is selected, showing the output of running the Go code:

```
> go run "c:\Code\GoCode\Modul-4\Guided\Guided3.go"
70 1.75
22.86
PS C:\Code> go run "c:\Code\GoCode\Modul-4\Guided\Guided3.go"
60 1.6
23.44
PS C:\Code> go run "c:\Code\GoCode\Modul-4\Guided\Guided3.go"
88 1.8
24.69
PS C:\Code>
```

On the right side of the screen, there is a separate window displaying student information:

<u>Nama</u>	: Cofa Xavier
<u>Marvel</u>	
<u>Nim</u>	: 109082500001
<u>Kelas</u>	: IF-13-04

## **Deskripsi program**

**Declare bodyweight, bodyheight and bmi as floats.**

**Scan and assign them.**

Then calculate the bmi by using weight / (height \* height).

using `Printf` to print the float.

# TUGAS

# Tugas 1

## Source code

```
package main
import
"fmt"
func
main() {
    var price, discount int
    //declares price and discount as intergers
    fmt.Scan(&price,
&discount)
    //Scans for them both

    fmt.Println(price - ((price * discount) / 100))
    //Print the result of the price being discounted by the discount

}
```

## Screenshot program

```
package main
import "fmt"
func main() {
    var price, discount int
    //declares price and discount as intergers
    fmt.Scan(&price, &discount)
    //Scans for them both
    fmt.Println(price - ((price * discount) / 100))
    //Print the result of the price being discounted by the discount
}
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Code> go run "c:\Code\GoCode\Modules-4\Tugas\Tugas1.go"
100000
10
90000
PS C:\Code> go run "c:\Code\GoCode\Modules-4\Tugas\Tugas1.go"
200000
20
160000
PS C:\Code> go run "c:\Code\GoCode\Modules-4\Tugas\Tugas1.go"
150000
15
127500
PS C:\Code>
```

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Marvel  
Nim : 109082500001  
Kelas : IF-13-04

### Deskripsi program

This program discounts the price variable using the equation.

$$(\text{Price} - (\text{Price} * \text{discount}) / 100))$$

The equation is contained in the Printline command.

### Tugas 2

#### Source code

```
package main
import
"fmt"
func
main() {
    var bodyWeight, bodyHeight, bmi
float64

    fmt.Scan(&bmi, &bodyHeight)
    bodyWeight = bmi * (bodyHeight *
bodyHeight)
    fmt.Printf("%.f",
bodyWeight)

}
```

#### Screenshot program

```

package main

import "fmt"

func main() {
    var bodyWeight, bodyHeight, bmi float64

    fmt.Scan(&bmi, &bodyHeight)

    bodyWeight = bmi * (bodyHeight * bodyHeight)

    fmt.Printf("%.f", bodyWeight)
}

```

PS C:\Code> go run "c:\Code\GoCode\Modul-4\Tugas\Tugas2.go"  
22.85 1.75  
70  
PS C:\Code> go run "c:\Code\GoCode\Modul-4\Tugas\Tugas2.go"  
23.43 1.6  
60  
PS C:\Code> go run "c:\Code\GoCode\Modul-4\Tugas\Tugas2.go"  
24.69 1.8  
80  
PS C:\Code>

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**Marvel**  
**Nim : 109082500001**  
**Kelas : IF-13-04**

### Deskripsi program

All variables are floats.

This program calculates bodyweight using the formula

$$\text{Weight} = \text{bmi} * (\text{height} * \text{height})$$

Then it prints the Weight using printf.

### Tugas3

#### Source code

```

package main

import (
    "fmt"
    "math"
)

func main() {
    var x1, y1, x2, y2, x3, y3 float64

    fmt.Scanln(&x1, &y1)
    fmt.Scanln(&x2, &y2)
    fmt.Scanln(&x3, &y3)

    ab := math.Sqrt(math.Pow(x2-x1, 2) + math.Pow(y2-y1, 2))
    bc := math.Sqrt(math.Pow(x3-x2, 2) + math.Pow(y3-y2, 2))
    ca := math.Sqrt(math.Pow(x1-x3, 2) + math.Pow(y1-y3, 2))

    longest := ab
}

```

```

if bc > longest {
    longest = bc
}
if ca > longest {
    longest = ca
}

fmt.Printf("%.2f\n", longest)
}

```

### Screenshot program

The screenshot shows a code editor interface with multiple tabs open. The active tab contains the following Go code:

```

package main

import (
    "fmt"
    "math"
)

func main() {
    var x1, y1, x2, y2, x3, y3 float64

    fmt.Scanln(&x1)
    fmt.Scanln(&x2)
    fmt.Scanln(&y1)
    fmt.Scanln(&y2)
    fmt.Scanln(&x3)
    fmt.Scanln(&y3)

    ab := math.Sqrt(math.Pow(x2-x1, 2) + math.Pow(y2-y1, 2))
    bc := math.Sqrt(math.Pow(x3-x2, 2) + math.Pow(y3-y2, 2))
    ca := math.Sqrt(math.Pow(x1-x3, 2) + math.Pow(y1-y3, 2))

    longest := ab
    if bc > longest {
        longest = bc
    }
    if ca > longest {
        longest = ca
    }

    fmt.Printf("%.2f\n", longest)
}

```

To the right of the code editor is a terminal window displaying the following student information:

<u>Nama</u>	: Cofa Xavier
<u>Marvel</u>	N/A
<u>Nim</u>	: 109082500001
<u>Kelas</u>	: IF-13-04

File Edit Selection View ⏪ ⏩ 🔍 Code

Tugas1.go, 2, U Tugas2.go, 1, U Tugas3.go, 1, U PTCOFA1.go, 1, U PTCOFA2.go, 1, U Guided3.go, U

GoCode > Modul-4 > Tugas > Tugas3.go > main

R func main() {

PROBLEMS 6 OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Code> go run "c:\Code\GoCode\Modul-4\Tugas\Tugas3.go"
1 1
4 1
1 5
5.00
PS C:\Code> go run "c:\Code\GoCode\Modul-4\Tugas\Tugas3.go"
0 0
4 2
0 3
4.47
PS C:\Code>
PS C:\Code> go run "c:\Code\GoCode\Modul-4\Tugas\Tugas3.go"
3 0
3 4
0 0
5.00
PS C:\Code> go run "c:\Code\GoCode\Modul-4\Tugas\Tugas3.go"
0 0
1 3
3 2
3.61
PS C:\Code> []
```

This render Radical Name package AIDA 0.632 Che Question Sheet

Name : Cofa  
Xavier Marvel  
Nim :  
109082500001  
Kelas : IF-13-04

Ln 3, Col 8 61 characters Plain text 500% Windows (CRLF) UTF-8

ENG US 09:16 PM 01/10/2023

## Deskripsi program

This program exists to calculate the lengths of the sides of the triangle formed from three points and determine the longest side of the triangle.

The input is formatted as three lines, each of which contains two real numbers representing the coordinates of points 1,2 and 3 in x-y format.

Ex: x1 y1

x2 y2

x3 y3

**The program calculates the length using the formula.**

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

**d = length**

Using a brand new, never seen, if statement to compare and choose the longest side.  
The chosen longest is then printed using `fmt.Println`.

The output is a float stating the length of the longest side of the triangle formed by these points.

# Pendahuluan Tugas

Pemberi : Ewaldo Ardiansyah Widyadhana– 109082500008

## 1.soal 1

- Deskripsi soal:

Buatlah program untuk menghitung hasil pembagian bulat(integer division) dan sisa bagi(modulo) dari dua bilangan yang diinput.

- Contoh I/O

	17	3
	5	2
	20	6
	3	2
	40	0
	500	40

- Source Code

```
package main

import (
    "fmt"
)

func main() {
    var A, B int

    fmt.Scan(&A, &B)

    C := A / B

    D := A % B

    fmt.Printf("\nHasil pembagian bulat : %v\nHasil sisa bagi : %v", C, D)
}
```

- Screenshot

```

5 )
6
7 func main() {
8
9     var A, B int
10
11    fmt.Scan(&A, &B)
12
13    C := A / B
14
15    D := A % B
16
17    fmt.Printf("\nHasil pembagian bulat : %v\nHasil sisa bagi : %v", C, D)
18 }
19

```

PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

PS C:\Code> go run "c:\Code\GoCode\tugasPendahuluan\Ewaldos\PTEWALDO1.go"
17 5

 Hasil pembagian bulat : 3
 Hasil sisa bagi : 2
PS C:\Code> go run "c:\Code\GoCode\tugasPendahuluan\Ewaldos\PTEWALDO1.go"
26 500

 Hasil pembagian bulat : 6
 Hasil sisa bagi : 2
PS C:\Code> go run "c:\Code\GoCode\tugasPendahuluan\Ewaldos\PTEWALDO1.go"
40 500

 Hasil pembagian bulat : 0
 Hasil sisa bagi : 40
PS C:\Code>

## 2.Soal 2

- Deskripsi soal:

**buatlah program untuk menghitung rata-rata dari dua bilangan bulat(intenger) yang dimasukan .**

- Contoh I/O

	6 4	5
	10 7	8.5
	8 3	5.5

- Source Code

```

package main

import "fmt"

func main() {

    var A, B int

    fmt.Scan(&A, &B)

    Af := float64(A)
    Bf := float64(B)
}

```

```
rata_rata := (Af + Bf) / 2

fmt.Println(rata_rata)

}
```

- Screenshot

The screenshot shows a Go development environment with the following components:

- Code Editor:** Displays the Go code for calculating the average of two float64 values.
- Terminal:** Shows the command-line output of running the Go code, resulting in the average value of 8.5.
- Modal Window:** A floating window titled "AIDA 0.032 Chs Question Sheet" containing student information:

Nama	:	Cofa Xavier Marvel
Nim	:	109082500001
Kelas	:	IF-13-04
- Status Bar:** Shows the current file path, line number, character count, zoom level, encoding, and date.