

LAPORAN PRAKTIKUM

Algoritma Pemrograman

MODUL 4

I/O, TIPE DATA & VARIABEL



Disusun oleh:

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S1IF-13-04

PROGRAM STUDI S1 INFORMATIKA

FAKULTAS INFORMATIKA

TELKOM UNIVERSITY PURWOKERTO

2025

LATIHAN KELAS – GUIDED

1. Guided 1

Source Code

```
package main

import "fmt"

func main() {

    var detik, jam, menit int

    fmt.Print("masukan detik: ")

    fmt.Scanln(&detik)

    jam = detik / 3600

    menit = (detik % 3600) / 60

    detik = detik % 60

    fmt.Println(jam, "jam", menit, "menit", detik,
    "detik")

}
```

Screenshot program

The screenshot shows a code editor with a dark theme. In the center is a code editor pane displaying the following Go code:

```
package main

import "fmt"

func main() {
    var detik, jam, menit int
    fmt.Print("masukan detik: ")
    fmt.Scanln(&detik)
    jam = detik / 3600
    menit = (detik % 3600) / 60
    detik = detik % 60
    fmt.Println(jam, "jam", menit, "menit", detik, "detik")
}
```

To the left of the code editor is an Explorer sidebar showing other files in the project: guided1.go, guided2.go, guided3.go, Modul_4.pdf, and tempCodeRunnerFile.go. At the bottom of the screen is a terminal window showing command-line interactions:

```
PS D:\Laprak Modul 4 Gamaliel ANS> go run "d:\Laprak Modul 4 Gamaliel"
masukan detik: 3661
1 jam 1 menit 1 detik
PS D:\Laprak Modul 4 Gamaliel ANS> go run "d:\Laprak Modul 4 Gamaliel"
masukan detik: 7322
2 jam 2 menit 2 detik
PS D:\Laprak Modul 4 Gamaliel ANS> go run "d:\Laprak Modul 4 Gamaliel"
masukan detik: 3600
1 jam 0 menit 0 detik
PS D:\Laprak Modul 4 Gamaliel ANS>
PS D:\Laprak Modul 4 Gamaliel ANS> []
```

Deskripsi program

Program ini meminta input berupa total detik, lalu mengkonversinya menjadi format jam, menit, dan detik, kemudian menampilkannya ke layar.

2. Guided 2

Source Code

```
package main

import "fmt"

func main() {
    var x int

    fmt.Print("Input: ")

    fmt.Scan(&x)

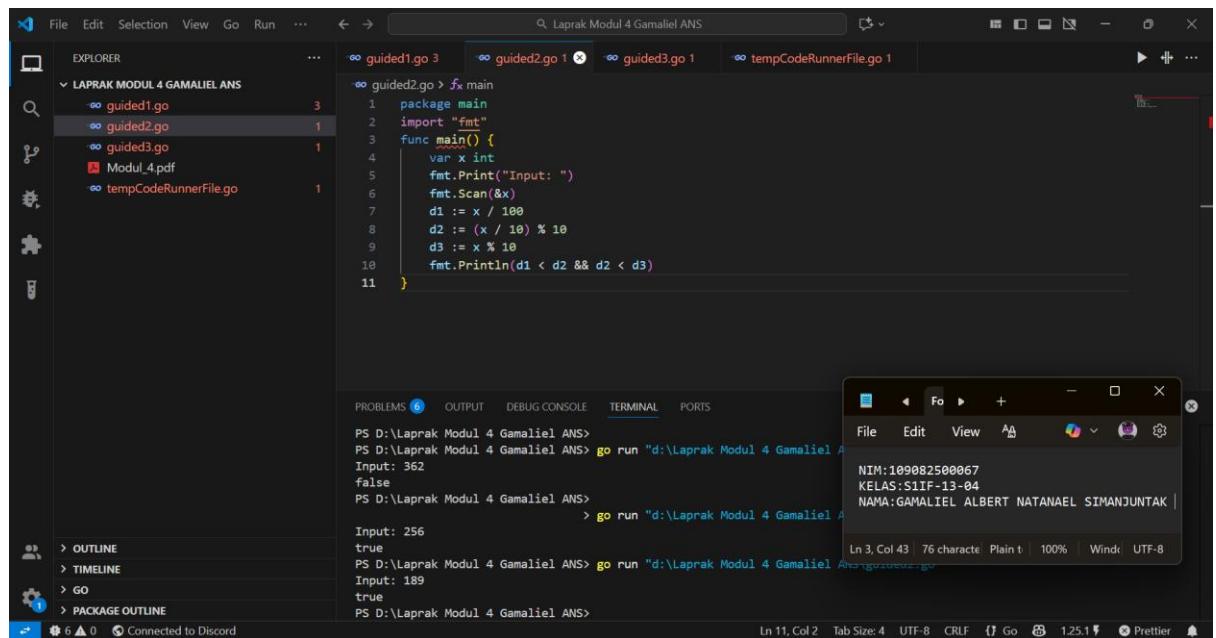
    d1 := x / 100

    d2 := (x / 10) % 10

    d3 := x % 10

    fmt.Println(d1 < d2 && d2 < d3)
}
```

Screenshot program



Deskripsi program

Program ini meminta input sebuah bilangan bulat, lalu memeriksa apakah digit-digitnya (ratusan, puluhan, dan satuan) tersusun dalam urutan menaik.

Program akan mencetak true jika digit pertama < digit kedua < digit ketiga

3. Guided 3

Source Code

```
package main

import "fmt"

func main () {
    var beratBadan, tinggiBadan, bmi float64
    fmt.Scan(&beratBadan, &tinggiBadan)
    bmi = beratBadan / (tinggiBadan * tinggiBadan)
    fmt.Printf("%.2f", bmi)
}
```

Screenshoot program

The screenshot shows a Microsoft Visual Studio Code interface for a Go project named "LAPRAK MODUL 4 GAMALIEL ANS".

- EXPLORER:** Shows files: guided1.go (3), guided2.go (1), guided3.go (1), Modul_4.pdf, and tempCodeRunnerFile.go.
- CODE EDITOR:** Displays the content of guided3.go:

```
1 package main
2 import "fmt"
3 func main () {
4     var beratBadan, tinggiBadan, bmi float64
5     fmt.Scan(&beratBadan, &tinggiBadan)
6     bmi = beratBadan / (tinggiBadan * tinggiBadan)
7     fmt.Printf("%.2f", bmi)
8 }
```
- TERMINAL:** Shows the command line output of running the program:

```
PS D:\Laprap Modul 4 Gamaliel ANS> go run "d:\Laprap Modul 4 Gamaliel A
70 1.75
22.86
PS D:\Laprap Modul 4 Gamaliel ANS> go run "d:\Laprap Modul 4 Gamaliel A
60 1.6
23.44
PS D:\Laprap Modul 4 Gamaliel ANS> go run "d:\Laprap Modul 4 Gamaliel A
80 1.8
24.69
PS D:\Laprap Modul 4 Gamaliel ANS>
```
- STATUS BAR:** Shows the current file path as "D:\Laprap Modul 4 Gamaliel ANS", line 9, column 1, tab size 4, and encoding UTF-8.

Deskripsi program

Program ini menghitung BMI (Indeks Massa Tubuh) berdasarkan input berat badan dan tinggi badan, lalu mencetak hasilnya dengan format dua angka di belakang koma.

TUGAS

1. Tugas 1

Source code

```
package main

import "fmt"

func main() {
    var totalBelanja int
    var diskonPersen int
    fmt.Scan(&totalBelanja)
    fmt.Scan(&diskonPersen)
    var besarDiskon int
    besarDiskon = (totalBelanja * diskonPersen) / 100
    var totalAkhir int
    totalAkhir = totalBelanja - besarDiskon
    fmt.Println(totalAkhir)
}
```

Screenshot program

The screenshot shows a dark-themed instance of Visual Studio Code. The left sidebar displays a file tree under the 'EXPLORER' tab, with the folder 'LAPRAK MODUL 4 GAMALIEL ANS' expanded. Inside, files like 'guided1.go', 'guided2.go', 'guided3.go', 'Modul 4.pdf', 'tempCodeRunnerFile.go', and 'tugas1.go' are listed. The file 'tugas1.go' is currently selected and shown in the main code editor area. The code implements a Go program to calculate a discounted total price based on user input for totalBelanja and diskonPersen.

```
package main
import "fmt"
func main() {
    var totalBelanja int
    var diskonPersen int
    fmt.Scan(&totalBelanja)
    fmt.Scan(&diskonPersen)
    var besarDiskon int
    besarDiskon = (totalBelanja * diskonPersen) / 100
    var totalAkhir int
    totalAkhir = totalBelanja - besarDiskon
    fmt.Println(totalAkhir)
}
```

The bottom right corner features a floating terminal window titled 'Terminal'. It displays command-line output from running the Go code. The output shows two runs of the program, each prompting for 'totalBelanja' and 'diskonPersen', and then printing the calculated 'totalAkhir' value. The terminal also shows the user's profile information: NIM:109082500067, KELAS:S1IF-13-04, and NAME:GAMALIEL ALBERT NATANAEAL SIMANJUNTAK.

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS D:\Laprak Modul 4 Gamaliel ANS> go run "d:\Laprak Modul 4 Gamaliel ANS\tempCodeRunnerFile.go"
100000
10
90000
PS D:\Laprak Modul 4 Gamaliel ANS> go run "d:\Laprak Modul 4 Gamaliel ANS\tempCodeRunnerFile.go"
200000
20
160000
PS D:\Laprak Modul 4 Gamaliel ANS> go run "d:\Laprak Modul 4 Gamaliel ANS\tempCodeRunnerFile.go"
150000
15
127500
PS D:\Laprak Modul 4 Gamaliel ANS>
```

File Edit View

NIM:109082500067
KELAS:S1IF-13-04
NAME:GAMALIEL ALBERT NATANAEAL SIMANJUNTAK |

Ln 3, Col 43 76 characters Plain text 100% Wind UTF-8

Ln 13, Col 2 Tab Size: 4 UTF-8 CRLF { } Go 1.25.1 Connected to Discord

Deskripsi program

Program ini membaca dua masukan bilangan bulat:

1. Total belanja awal.
 2. Persentase diskon.

Kemudian, program menghitung jumlah potongan harga dan menguranginya dari total belanja awal. Hasil akhirnya (total harga setelah diskon) dicetak ke layar.

2. Tugas 2

Source code

```
package main

import (
    "fmt"
    "math"

)

func main() {
    var bmi float64
```

```

var tinggi float64

fmt.Scan(&bmi)
fmt.Scan(&tinggi)

var beratFloat float64
beratFloat = bmi * (tinggi * tinggi)

var beratBulat int
beratBulat = int(math.Round(beratFloat))

fmt.Println(beratBulat)
}

```

Screenshot program

The screenshot shows a code editor interface with a dark theme. On the left is the Explorer sidebar showing files: guided1.go, guided2.go, guided3.go, Modul_4.pdf, tempCodeRunnerFile.go, tugas1.go, and tugas2.go. The main editor area contains the following Go code:

```

package main

import (
    "fmt"
    "math"
)

func main() {
    var bmi float64
    var tinggi float64

    fmt.Scan(&bmi)
    fmt.Scan(&tinggi)

    var beratFloat float64
    beratFloat = bmi * (tinggi * tinggi)

    var beratBulat int
    beratBulat = int(math.Round(beratFloat))

    fmt.Println(beratBulat)
}

```

To the right of the editor is a terminal window displaying the output of the program:

```

NIM:10008250067
KELAS:SIIF-13-04
NAMA:GAMALIEL ALBERT NATANUEL SIMANJUNTAK

```

At the bottom of the interface, status bars show: Line 22, Column 2 / Tab Size: 4 / UTF-8 / CRLF / Go / 1.25.1 / Prettier.

```

File Edit Selection View Go Run ... ← → 🔍 Laprak Modul 4 Gamaliel ANS
EXPLORER PROBLEMS 10 OUTPUT DEBUG CONSOLE TERMINAL PORTS
LAPRAK MODUL 4 GAMALIEL ANS
guided1.go 5
guided2.go 1
guided3.go 1
Modul_4.pdf
tempCodeRunnerFile.go 1
tugas1.go 1
tugas2.go 1
150000
15
127500
PS D:\Laprak Modul 4 Gamaliel ANS> go run "d:\Laprak Modul 4 Gamaliel ANS\tugas2.go"
22.85 1.75
70
PS D:\Laprak Modul 4 Gamaliel ANS> go run "d:\Laprak Modul 4 Gamaliel ANS\tugas2.go"
23.43 1.6
60
PS D:\Laprak Modul 4 Gamaliel ANS> go run "d:\Laprak Modul 4 Gamaliel ANS\tugas2.go"
24.69 1.8
80
PS D:\Laprak Modul 4 Gamaliel ANS> []

```

File Edit View AA File NIM:109082500067 KELAS:S1IF-13-04 NAMA:GAMALIEL ALBERT NATANAEAL SIMANJUNTAK

Ln 2, Col 17 | 76 characters Plain t | 100% Windi | UTF-8

Ln 21, Col 28 Tab Size: 4 UTF-8 CRLF ⌂ Go ⌂ 1.25.1 ⌂ Prettier ⌂

Deskripsi program

Program ini membaca dua masukan angka desimal:

1. Nilai BMI.
2. Tinggi badan (dalam meter).

Program kemudian menghitung berat badan menggunakan rumus $\text{Berat} = \text{BMI} * (\text{Tinggi} * \text{Tinggi})$. Hasil perhitungan desimal tersebut dibulatkan ke bilangan bulat terdekat, lalu dicetak ke layar sebagai keluaran.

3. Tugas 3

Source code

```

package main
import (
    "fmt"
    "math"
)
func hitungJarak(x1, y1, x2, y2 float64) float64 {
    deltaX := math.Pow(x2-x1, 2)
    deltaY := math.Pow(y2-y1, 2)
    return math.Sqrt(deltaX + deltaY)
}
func main() {
    var xA, yA float64
    var xB, yB float64
    var xC, yC float64
    fmt.Scan(&xA, &yA)
    fmt.Scan(&xB, &yB)
    fmt.Scan(&xC, &yC)
}

```

```

    sisiAB := hitungJarak(xA, yA, xB, yB)
    sisiBC := hitungJarak(xB, yB, xC, yC)
    sisiAC := hitungJarak(xA, yA, xC, yC)
    var sisiTerpanjang float64
    sisiTerpanjang = math.Max(sisiAB, sisiBC)
    sisiTerpanjang = math.Max(sisiTerpanjang, sisiAC)
    fmt.Printf("%.2f\n", sisiTerpanjang)
}

```

Screenshot program

```

File Edit Selection View Go Run ... ← → Q: Laprak Modul 4 Gamaliel ANS
EXPLORER LAPRAK MODUL 4 GAMALIEL ANS
guided1.go 6
guided2.go 1
guided3.go 1
Modul_4.pdf
tempCodeRunnerFile.go 1
tugas1.go 1
tugas2.go 1
tugas3.go 1
tugas3.go > fx main
Close (Ctrl+F4)

1 package main
2 import (
3     "fmt"
4     "math"
5 )
6 func hitungJarak(x1, y1, x2, y2 float64) float64 {
7     deltaX := math.Pow(x2-x1, 2)
8     deltaY := math.Pow(y2-y1, 2)
9     return math.Sqrt(deltaX + deltaY)
10 }
11 func main() {
12     var xA, yA float64
13     var xB, yB float64
14     var xC, yC float64
15     fmt.Scan(&xA, &yA)
16     fmt.Scan(&xB, &yB)
17     fmt.Scan(&xC, &yC)
18     sisiAB := hitungJarak(xA, yA, xB, yB)
19     sisiBC := hitungJarak(xB, yB, xC, yC)
20     sisiAC := hitungJarak(xA, yA, xC, yC)
21     var sisiTerpanjang float64
22     sisiTerpanjang = math.Max(sisiAB, sisiBC)
23     sisiTerpanjang = math.Max(sisiTerpanjang, sisiAC)
24     fmt.Printf("%.2f\n", sisiTerpanjang)
25 }

File Edit View AA ...
NIM:109082500067
KELAS:S1IF-13-04
NAME:GAMALIEL ALBERT NATANEAEL SIMANJUNTAK
Ln 3, Col 42 | 76 character Plain 100% Wind UTF-8
Ln 25, Col 2 Tab Size: 4 UTF-8 CRLF ⌂ Go ⌂ 1.25.1 ⌂ Prettier

```

The screenshot shows the Visual Studio Code interface with the following details:

- EXPLORER** view: Shows files in the "LAPRAK MODUL 4 GAMALIEL ANS" folder, including guided1.go, guided2.go, guided3.go, Modul_4.pdf, tempCodeRunnerFile.go, tugas1.go, tugas2.go, and tugas3.go.
- PROBLEMS** view: Displays 12 errors.
- OUTPUT** view: Shows command-line output of a Go program run. It includes:
 - PS D:\Laprak Modul 4 Gamaliel ANS> go run "d:\Laprak Modul 4 Gamaliel ANS\tugas3.go"
 - 1.0 1.0
 - 4.0 1.0
 - 1.0 5.0
 - 5.00
 - PS D:\Laprak Modul 4 Gamaliel ANS> go run "d:\Laprak Modul 4 Gamaliel ANS\tugas3.go"
 - 0.0 0.0
 - 3.0 0.0
 - 3.0 4.0
 - 5.00
- TUTORIAL** view: Displays student information:
 - NIM:109082500067
 - KELAS:S1IF-13-04
 - NAMA:GAMALIEL ALBERT NATANAEL SIMANJUNTAK
- STATUS** bar: Shows file count (12), error count (0), and connection status ("Connected to Discord").
- Bottom right corner**: Shows code editor settings: Ln 3, Col 33 | Tab Size: 4 | UTF-8 | CRLF | Go | 1.25.1 | Prettier | Bell icon.

Deskripsi program

Program ini membaca tiga pasang koordinat (x, y) yang mewakili tiga titik A, B, dan C.

Program kemudian menghitung jarak antara ketiga titik tersebut (sisi AB, sisi BC, dan sisi AC) menggunakan rumus jarak (Teorema Pythagoras).

Terakhir, program ini membandingkan ketiga panjang sisi tersebut dan mencetak nilai sisi yang terpanjang, dengan format dua angka di belakang koma.