LAPORAN PRAKTIKUM

Algoritma Pemrograman

MODUL 4

I/O, DATA TYPES & VARIABLES

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PROGRAM STUDI S1 INFORMATIKA

FAKULTAS INFORMATIKA

TELKOM UNIVERSITY PURWOKERTO

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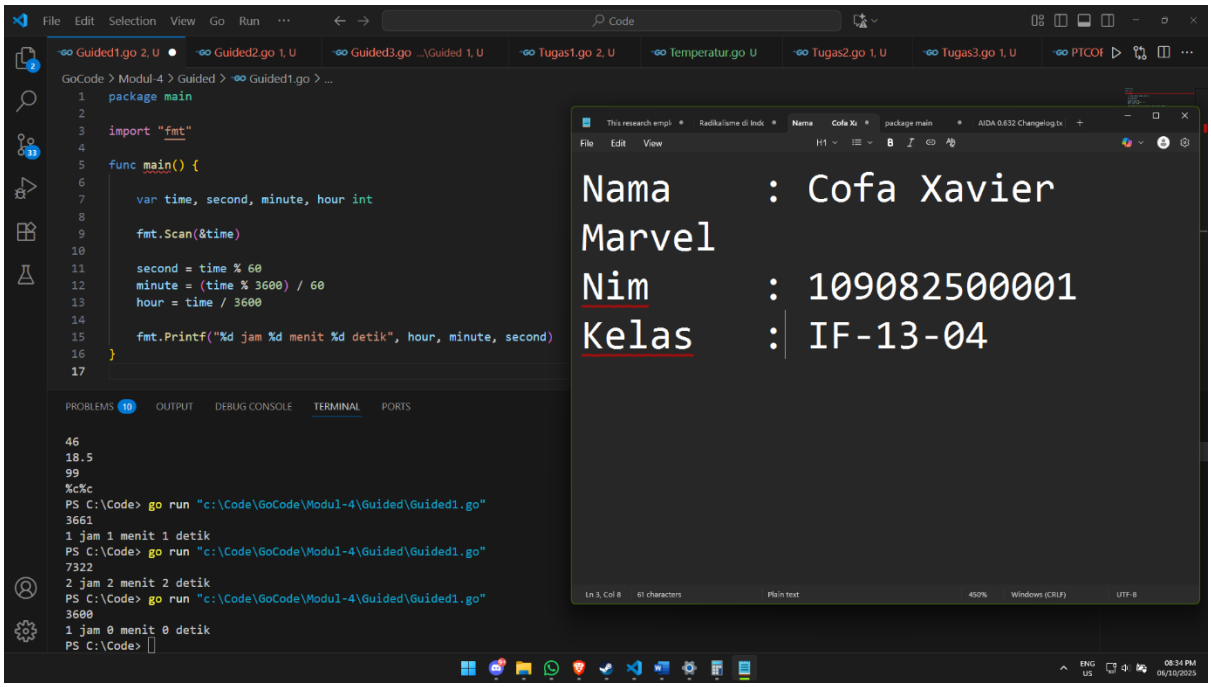
1. **Guided 1**

Source Code

```go
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)
}
```

Screenshoot program



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.

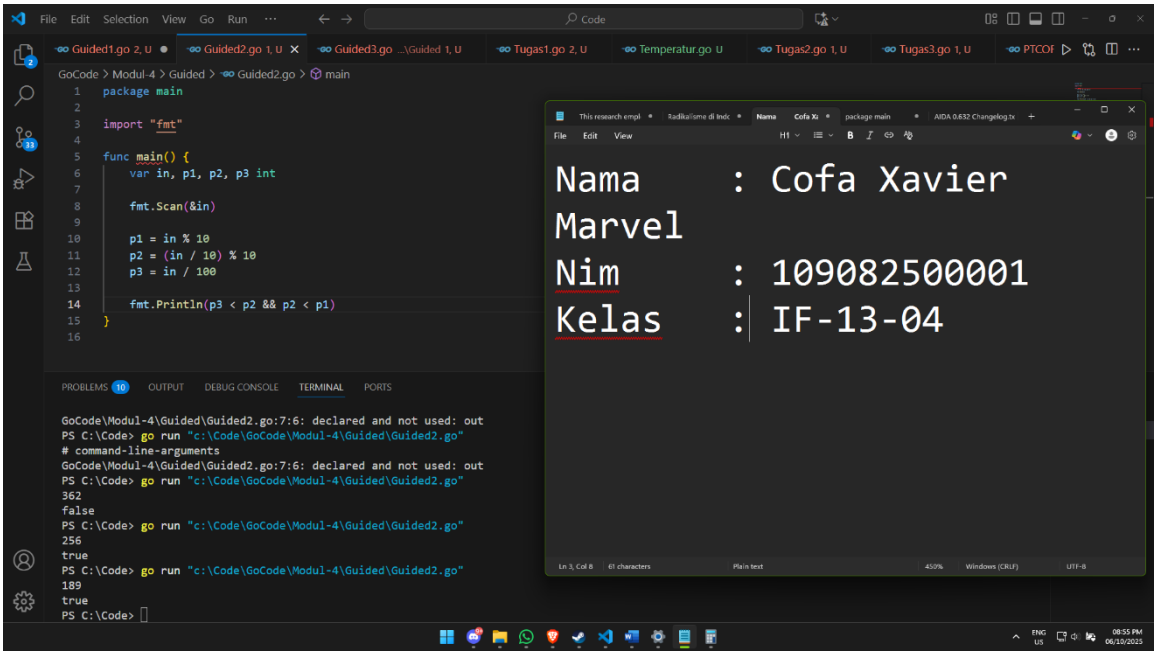
Then the seconds are found by the modulo of the number of seconds and 60,finding the left overs of the left overs out putting the seconds that did not make to the minutes or the hours.

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

2. **Guided 2**
   Source Code

```go
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



Deskripsi program

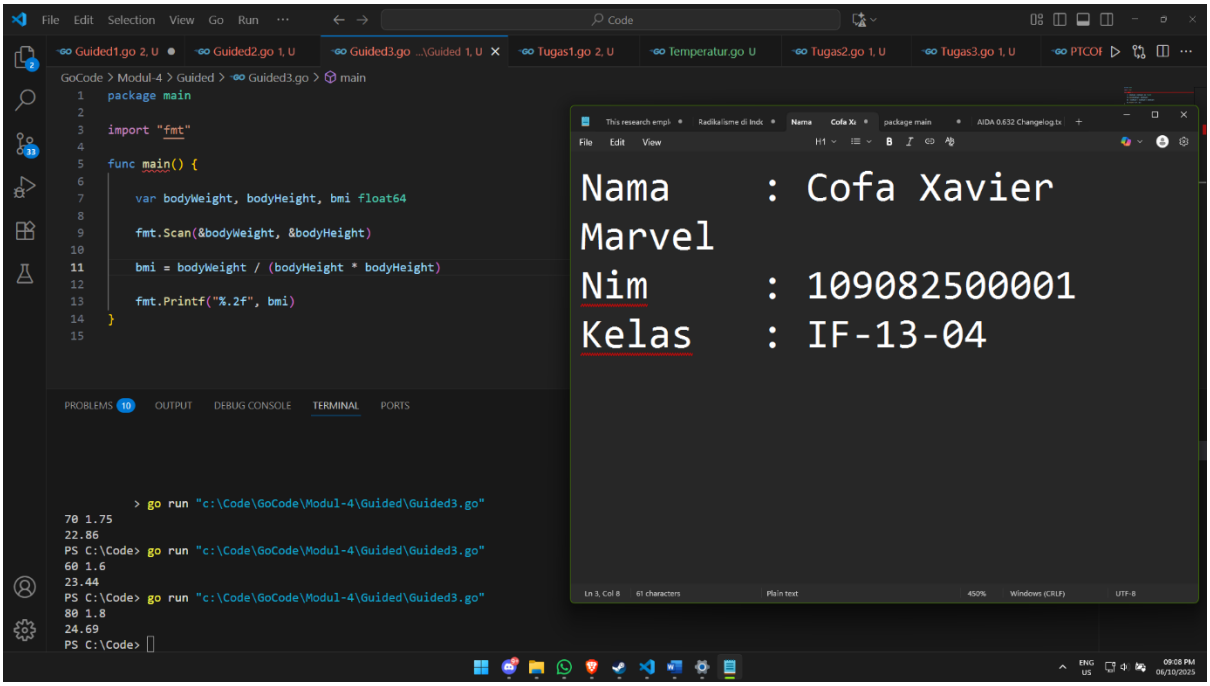
This program first separates the number in a variable using modulo and division
All variables being integers allow the use of modulo and division.
Dividing 362 by 100 gets 3.
Dividing 256 by 10 gets 25 modulo by 10 gets 5.
Modulo 189 by 10 get 9.
By comparing the separated numbers using the greater/lesser than and the and operator.
Printing the result, that being a bool.

3. **Guided 3**

Source Code

```go
package main

import "fmt"

func main() {

    var bodyWeight, bodyHeight, bmi float64

    fmt.Scan(&bodyWeight, &bodyHeight)

    bmi = (bodyHeight * bodyHeight) / bodyWeight

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

Screenshoot program



Deskripsi program

This program uses the standard fare.

Declare bodyweight, bodyheight and bmi as floats

Scan and assign them.

Then calculate the bmi by bodyweight divide by bodyweight times bodyweight.

Print using Printf to print the float.

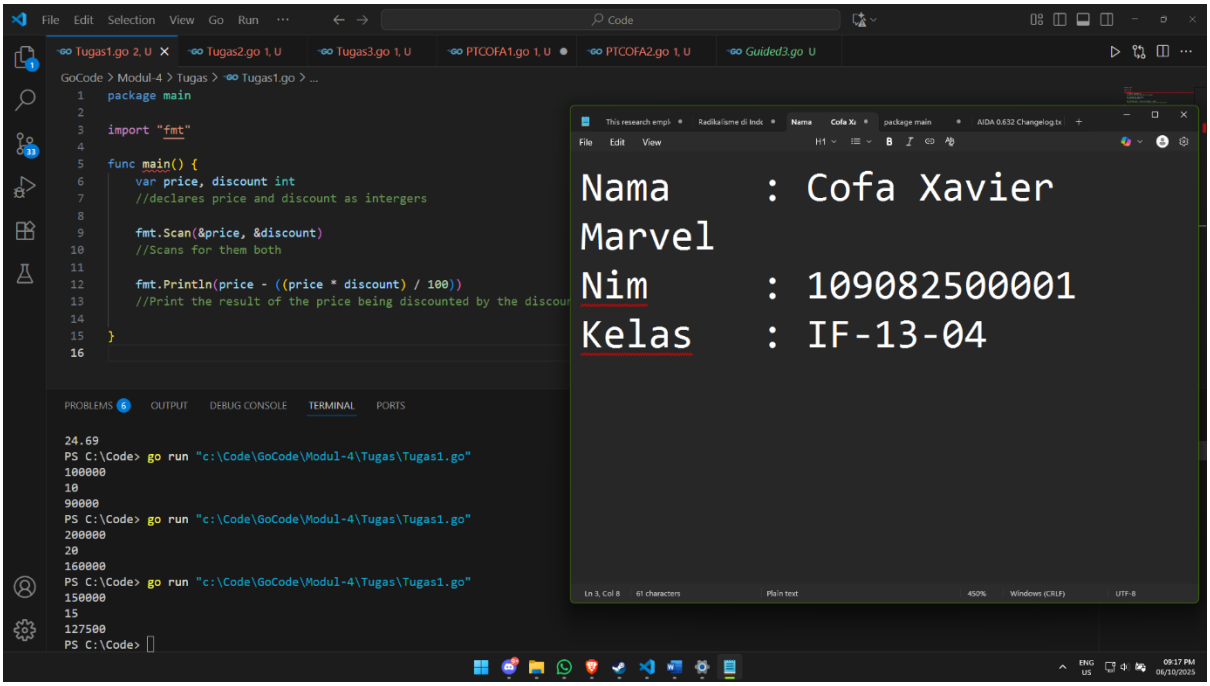
TUGAS

Tugas 1

Source code

```go
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

}
```

Screenshoot program



Deskripsi program

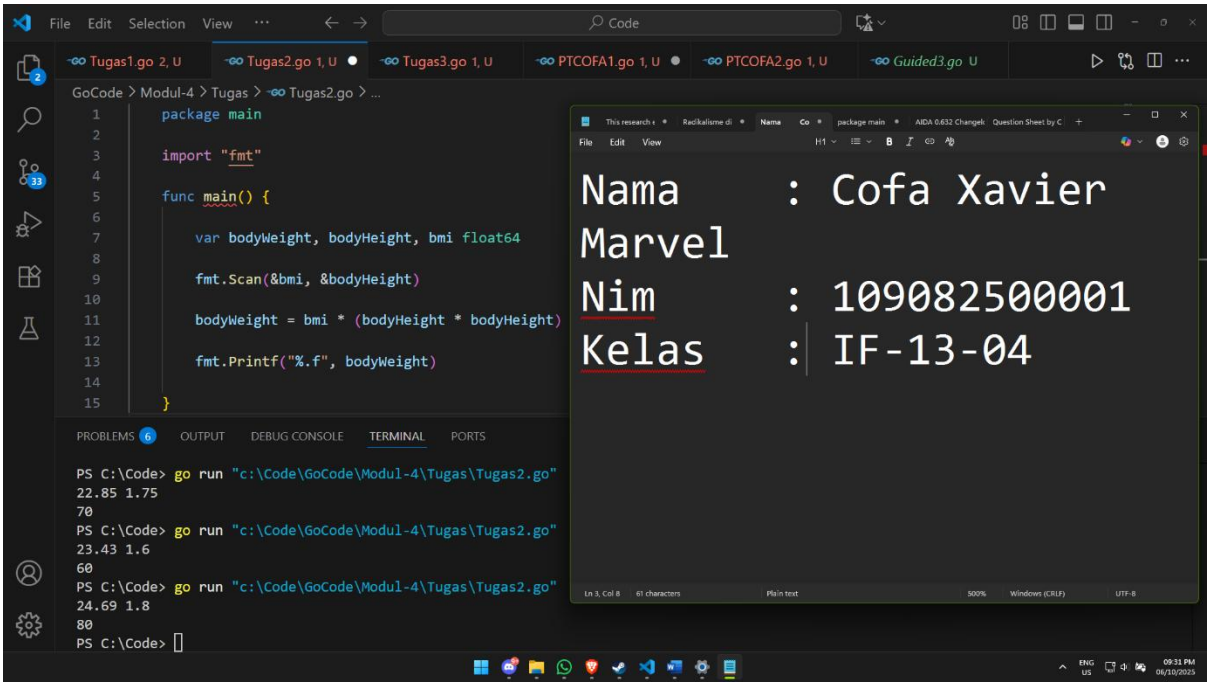
This program discounts the price variable using the equation.
(Price – ((Price * discount) / 100)))
The equation is contained in the Printline command.

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)

}
```

Screenshoot program



Deskripsi program

All variables are floats.

This program calculates bodyweight by multiplying the bmi by the bodyheight times bodyheight of a person.

Then it prints the float using printf.

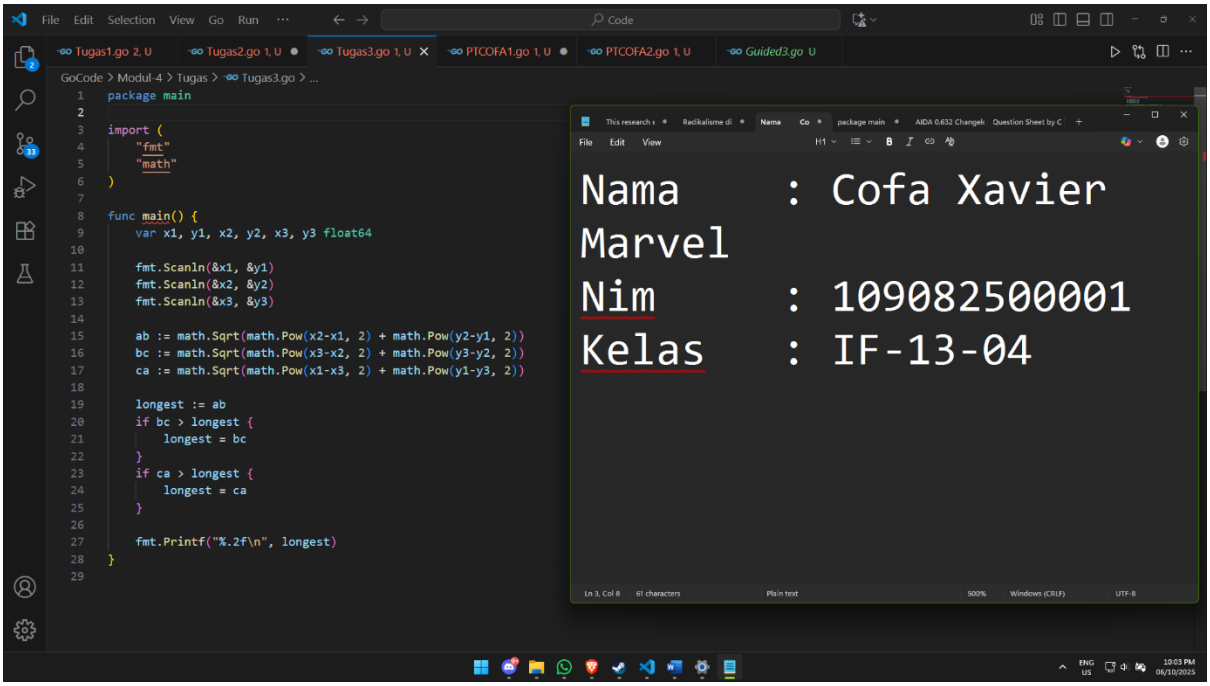
Tugas 3

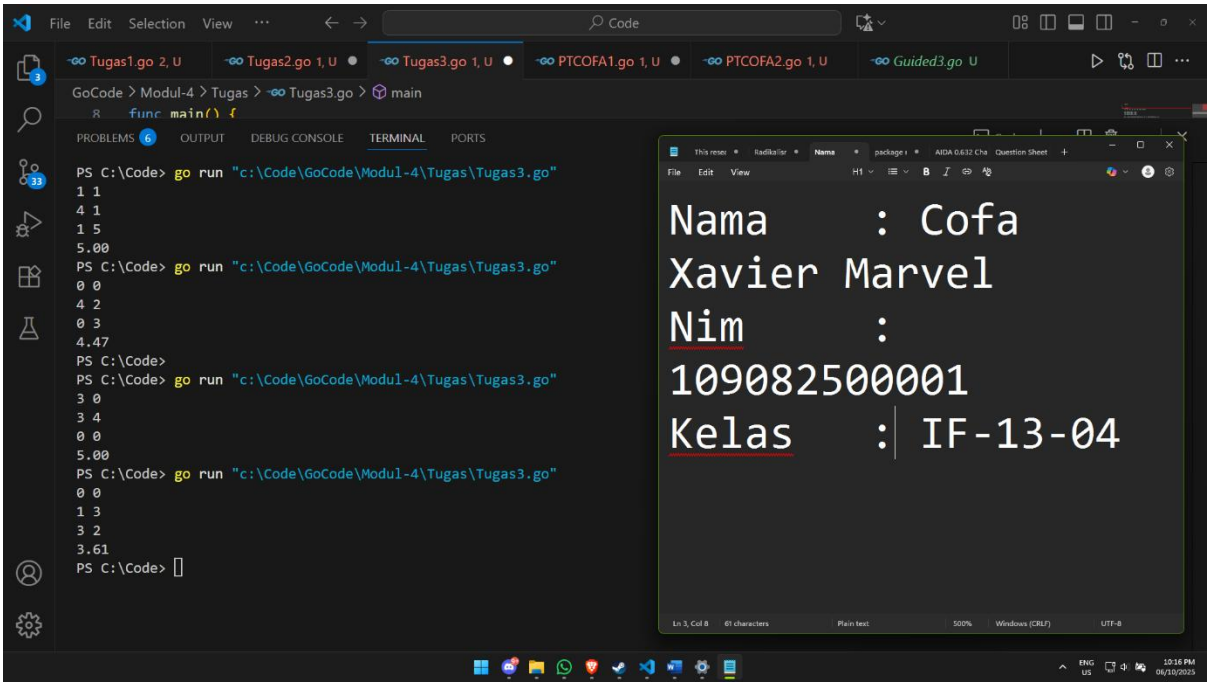
Source code

```go
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)
}
```

Screenshoot program





Deskripsi program

This program exists to calculate the lengths of the sides of the triangle formed by these 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 A, B, and C in x-y format.

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

Using a brand new, never seen, if statement to compare and choose the longest side.