

LAPORAN AKHIR PRAKTIKUM

Mata Praktikum : Algoritma & Pemrograman 3B
Kelas : 2IA18
Praktikum ke- : 1
Tanggal : 28 November 2024
Materi : Pengenalan Golang
NPM : 51423319
Nama : Agrieva Xananda Pramuditha
Asisten : Mikael
Lembar : 9

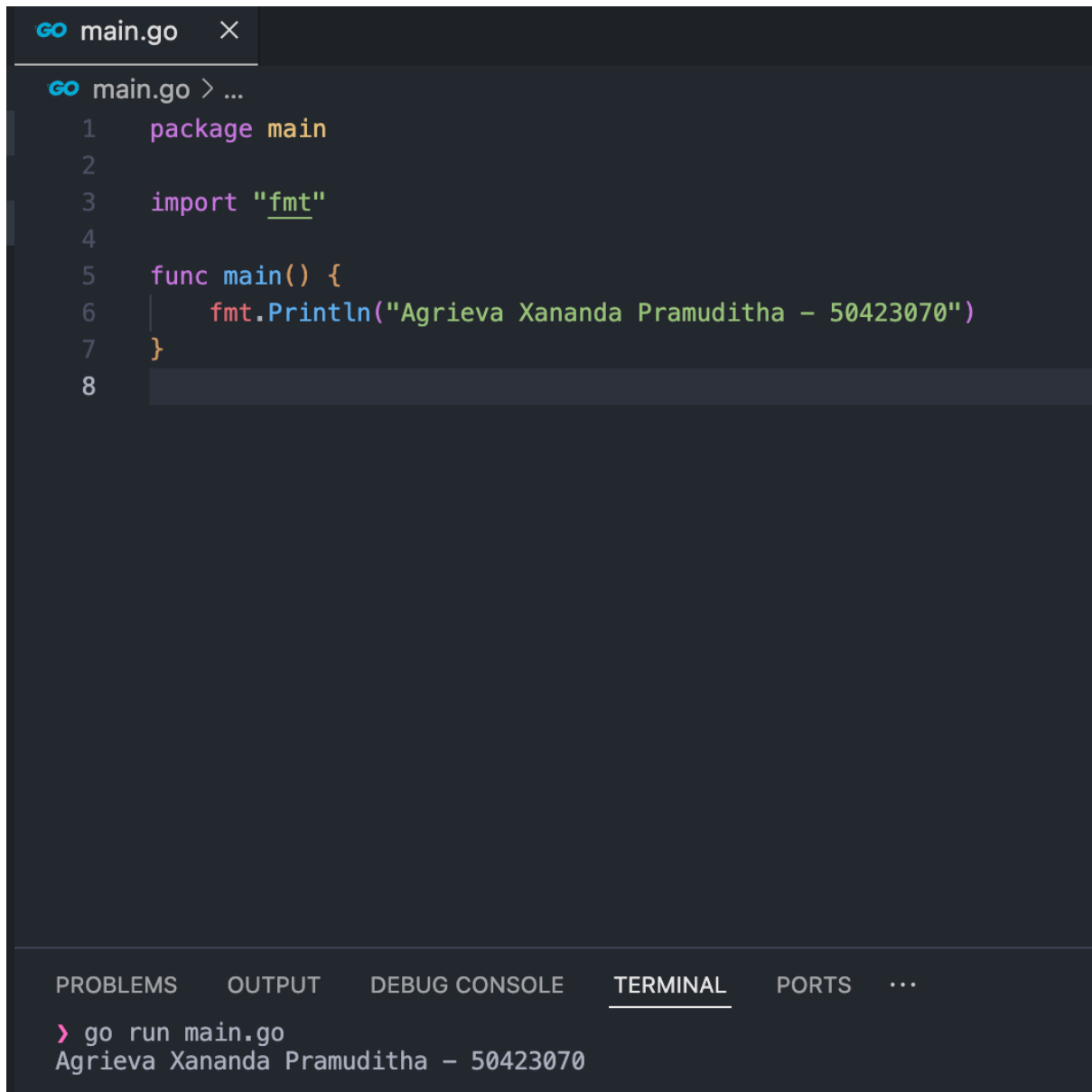


LABORATORIUM TEKNIK INFORMATIKA

UNIVERSITAS GUNADARMA

2024

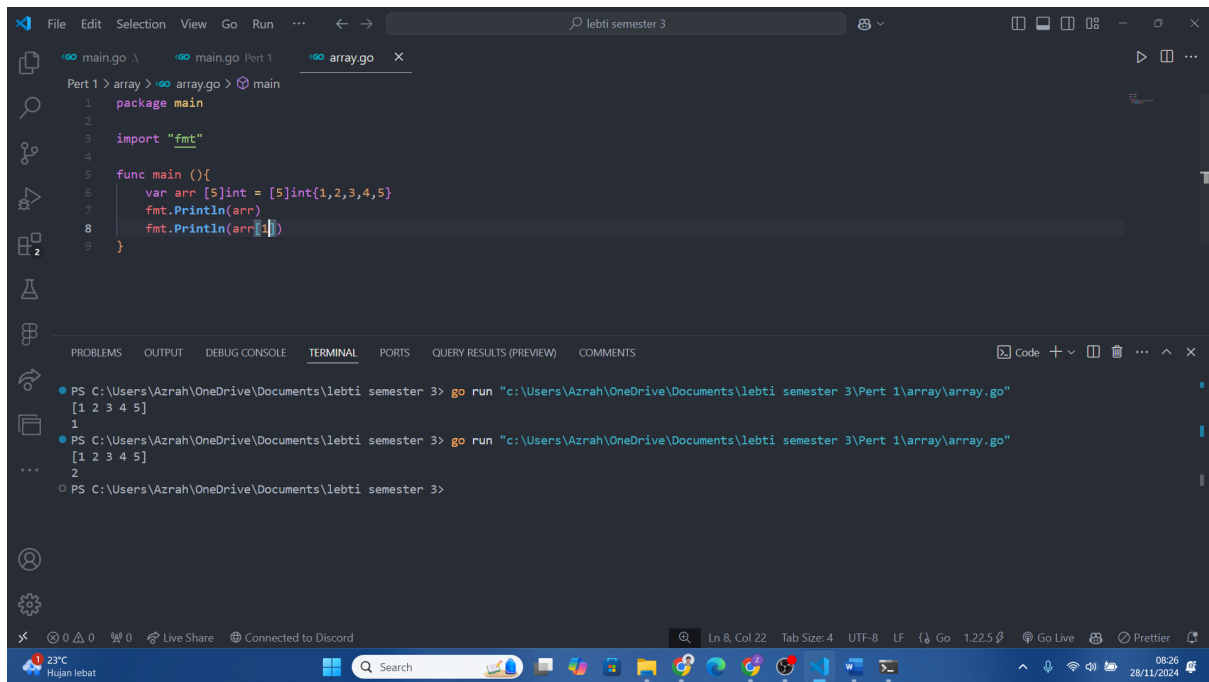
Main.go



```
GO main.go ×  
GO main.go > ...  
1 package main  
2  
3 import "fmt"  
4  
5 func main() {  
6     fmt.Println("Agrieva Xananda Pramuditha - 50423070")  
7 }  
8  
  
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS ...  
> go run main.go  
Agrieva Xananda Pramuditha - 50423070
```

Program ini mencetak nama "Agrieva Xananda Pramuditha" dan sebuah angka "50423070". Kode ini sangat dasar, menunjukkan cara menggunakan fungsi `fmt.Println` dalam bahasa Go untuk mencetak teks ke layar.

Array.go

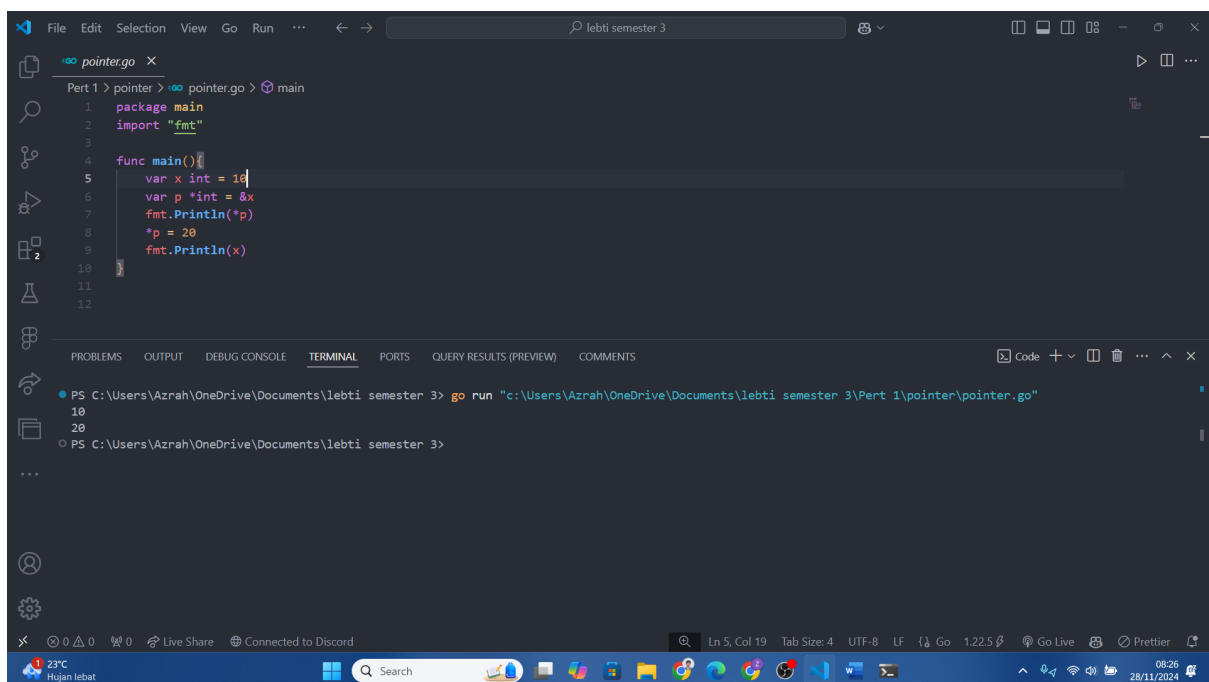
The screenshot shows the Visual Studio Code editor with a Go file named 'array.go'. The code defines a 'main' package and a 'main' function. Inside the function, an array 'arr' of type 'int' with 5 elements is initialized with values [1, 2, 3, 4, 5]. The array is printed using 'fmt.Println(arr)', and then the element at index 1 is printed using 'fmt.Println(arr[1])'. The terminal at the bottom shows the command 'go run "c:\Users\Azrah\OneDrive\Documents\lehti semester 3\Pert 1\array\array.go"' being executed, resulting in the output '[1 2 3 4 5]' followed by '2'. The status bar at the bottom indicates the file is at line 8, column 22, and the system clock shows 08:26 on 28/11/2024.

```
1 package main
2
3 import "fmt"
4
5 func main(){
6     var arr [5]int = [5]int{1,2,3,4,5}
7     fmt.Println(arr)
8     fmt.Println(arr[1])
9 }
```

```
PS C:\Users\Azrah\OneDrive\Documents\lehti semester 3> go run "c:\Users\Azrah\OneDrive\Documents\lehti semester 3\Pert 1\array\array.go"
[1 2 3 4 5]
2
PS C:\Users\Azrah\OneDrive\Documents\lehti semester 3>
```

Program ini mendeklarasikan array dengan 5 elemen bilangan bulat [1, 2, 3, 4, 5] dan mencetak array tersebut ke layar. Selain itu, kode juga mencetak elemen kedua dari array dengan indeks [1], yang bernilai 2.

Pointer.go

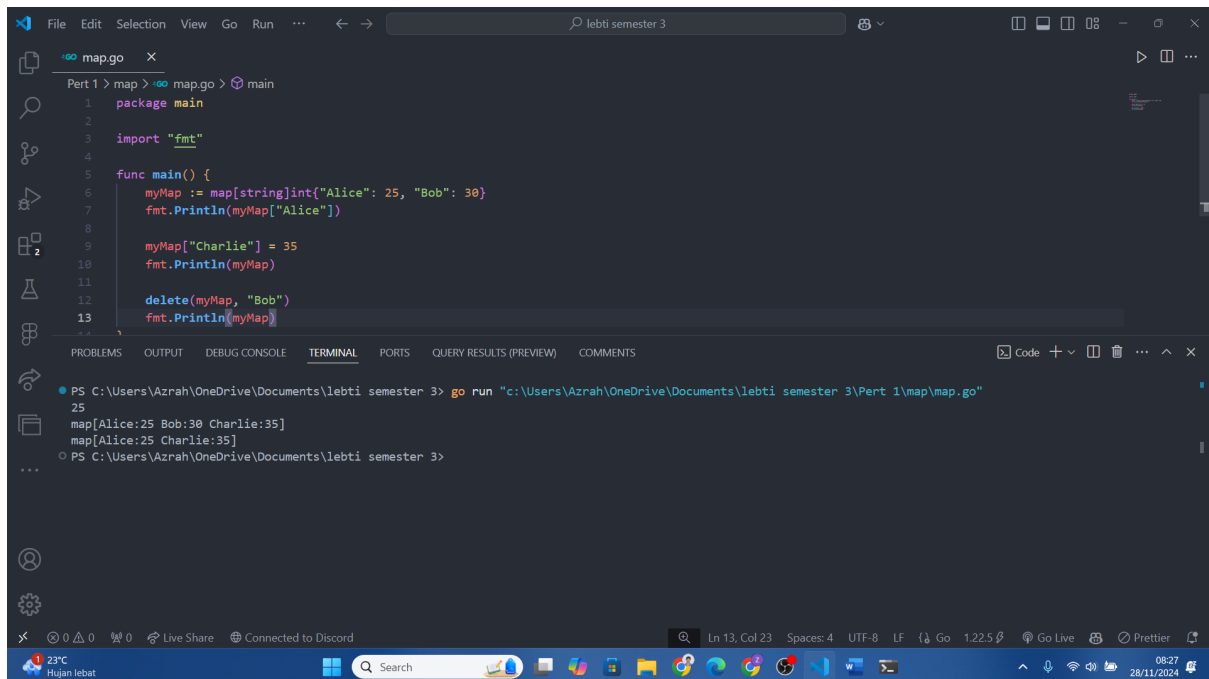
The screenshot shows the Visual Studio Code editor with a Go file named 'pointer.go'. The code defines a 'main' package and a 'main' function. Inside the function, a variable 'x' of type 'int' is initialized with the value 10. A pointer 'p' of type '*int' is then declared and assigned the address of 'x' using '&x'. The pointer 'p' is printed using 'fmt.Println(*p)', and then its value is changed to 20 using '*p = 20'. Finally, the variable 'x' is printed using 'fmt.Println(x)'. The terminal at the bottom shows the command 'go run "c:\Users\Azrah\OneDrive\Documents\lehti semester 3\Pert 1\pointer\pointer.go"' being executed, resulting in the output '10' followed by '20'. The status bar at the bottom indicates the file is at line 5, column 19, and the system clock shows 08:26 on 28/11/2024.

```
1 package main
2 import "fmt"
3
4 func main(){
5     var x int = 10
6     var p *int = &x
7     fmt.Println(*p)
8     *p = 20
9     fmt.Println(x)
10 }
11
12
```

```
PS C:\Users\Azrah\OneDrive\Documents\lehti semester 3> go run "c:\Users\Azrah\OneDrive\Documents\lehti semester 3\Pert 1\pointer\pointer.go"
10
20
PS C:\Users\Azrah\OneDrive\Documents\lehti semester 3>
```

Program ini menunjukkan penggunaan pointer dalam Go. Variabel x berisi nilai 10, sedangkan pointer p menunjuk ke alamat x. Ketika nilai pada pointer p diubah menjadi 20, nilai x juga berubah menjadi 20. Hal ini mencontohkan bagaimana pointer bekerja untuk mengakses dan mengubah nilai variabel.

Map.go

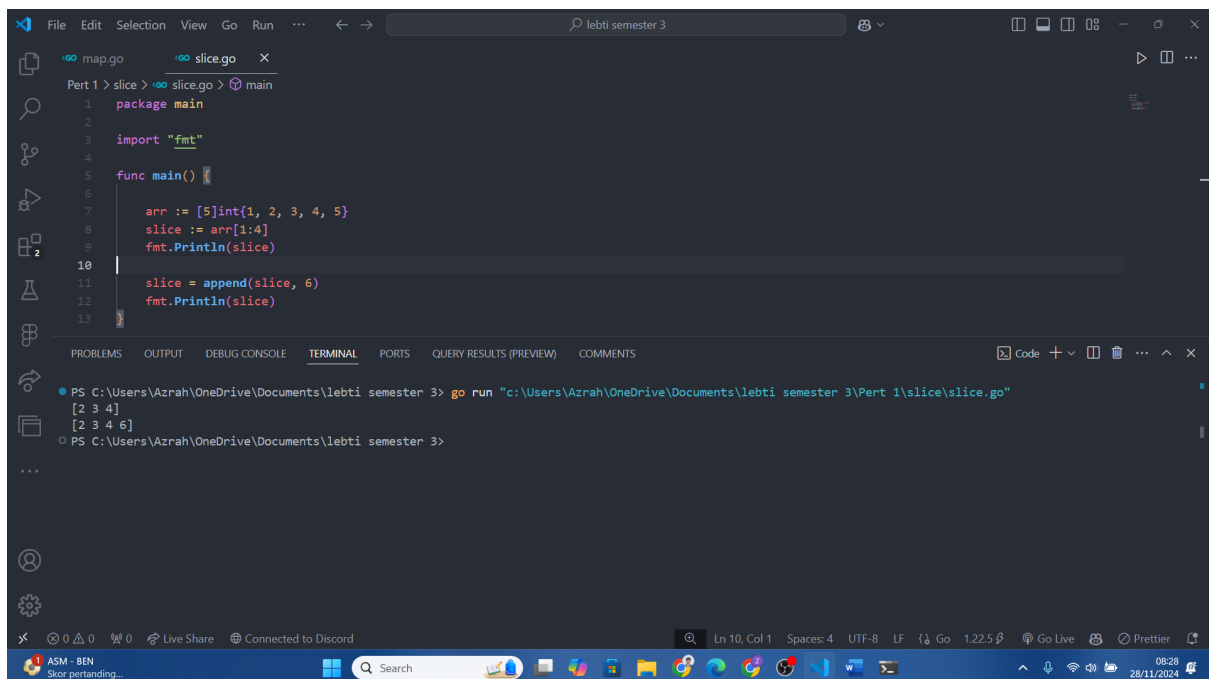


```
map.go
Pert1 > map > map.go > main
1 package main
2
3 import "fmt"
4
5 func main() {
6     myMap := map[string]int{"Alice": 25, "Bob": 30}
7     fmt.Println(myMap["Alice"])
8
9     myMap["Charlie"] = 35
10    fmt.Println(myMap)
11
12    delete(myMap, "Bob")
13    fmt.Println(myMap)
14}

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS QUERY RESULTS (PREVIEW) COMMENTS
• PS C:\Users\Azrah\OneDrive\Documents\lebti semester 3> go run "c:\Users\Azrah\OneDrive\Documents\lebti semester 3\Pert 1\map\map.go"
25
map[Alice:25 Bob:30 Charlie:35]
map[Alice:25 Charlie:35]
PS C:\Users\Azrah\OneDrive\Documents\lebti semester 3>
```

Program ini membuat map dengan kunci bertipe string dan nilai bertipe int. Awalnya, terdapat dua pasangan key-value (Alice:25 dan Bob:30). Elemen baru (Charlie:35) ditambahkan, kemudian elemen dengan key Bob dihapus. Map terakhir dicetak tanpa elemen Bob.

Slice.go

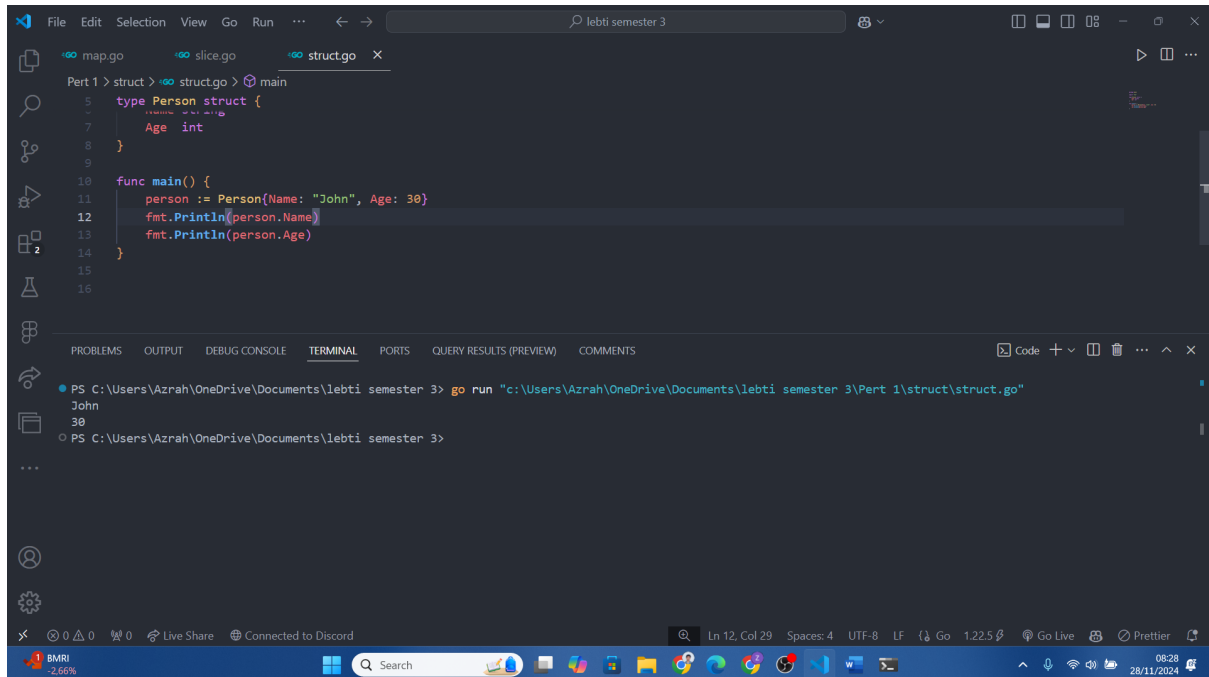


```
map.go slice.go
Pert1 > slice > slice.go > main
1 package main
2
3 import "fmt"
4
5 func main() {
6
7     arr := [5]int{1, 2, 3, 4, 5}
8     slice := arr[1:4]
9     fmt.Println(slice)
10
11    slice = append(slice, 6)
12    fmt.Println(slice)
13}

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS QUERY RESULTS (PREVIEW) COMMENTS
• PS C:\Users\Azrah\OneDrive\Documents\lebti semester 3> go run "c:\Users\Azrah\OneDrive\Documents\lebti semester 3\Pert 1\slice\slice.go"
[2 3 4]
[2 3 4 6]
PS C:\Users\Azrah\OneDrive\Documents\lebti semester 3>
```

Program ini mendemonstrasikan penggunaan slice, yang merupakan potongan dari array. Slice `slice := arr[1:4]` mencakup elemen dari indeks 1 hingga sebelum 4 (yaitu [2, 3, 4]). Elemen 6 kemudian ditambahkan ke slice dengan menggunakan fungsi `append`.

Struct.go



```
File Edit Selection View Go Run ... < > lebti semester 3
-Go map.go -Go slice.go -Go struct.go x
Pert 1 > struct > -Go struct.go > main
5 type Person struct {
6     Name string
7     Age int
8 }
9
10 func main() {
11     person := Person{Name: "John", Age: 30}
12     fmt.Println(person.Name)
13     fmt.Println(person.Age)
14 }
15
16
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS QUERY RESULTS (PREVIEW) COMMENTS
Code + - - - - -
● PS C:\Users\Azrah\OneDrive\Documents\lebti semester 3> go run "c:\Users\Azrah\OneDrive\Documents\lebti semester 3\Pert 1\struct\struct.go"
John
30
○ PS C:\Users\Azrah\OneDrive\Documents\lebti semester 3>
...
Ln 12, Col 29 Spaces: 4 UTF-8 LF Go 1.22.5 β Go Live Prettier
BMRI +2.66%
```

Program ini mendefinisikan struct bernama Person dengan dua field: Name dan Age. Sebuah instance dari struct diinisialisasi dengan nama John dan usia 30. Nilai dari kedua field ini dicetak ke layar, menunjukkan cara kerja struct dalam Go.