

**LAPORAN PRAKTIKUM**  
**Algoritma Pemrograman**

**MODUL 12**

**WHILE-LOOP**



**Disusun oleh:**  
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**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 n, i int

    fmt.Scan(&n)

    i = n

    for i > 1 {

        fmt.Print(i, " x ")

        i = i - 1

    }

    fmt.Println(1)

}
```

#### Screenshot program

The screenshot shows a code editor interface with the following details:

- File Explorer:** Shows a folder named "MODUL12 WHILE-LOOP" containing files: guided1.go (5 lines), guided2.go (1 line), guided3.go (1 line), soal1.go (1 line), soal2.go (1 line), and soal3.go (1 line).
- Code Editor:** The file "guided1.go" is open, displaying the provided Go code.
- Terminal:** The terminal window shows the command "go run d:\alpro\modul12 while-loop\guided1.go" being run, followed by the output of the program which is a series of numbers from 10 down to 1 separated by "x".
- Bottom Status Bar:** Shows file path "D:\alpro\modul12 while-loop\guided1.go", line count "Ln 12, Col 2", tab size "Tab Size: 4", encoding "UTF-8", and version "1.25.1".

#### Deskripsi program

Program ini dibuat untuk menampilkan perkalian dari suatu angka (n) sampai 1.

1. Input berupa suatu angka (n)
2. Program akan menampilkan angka dari n sampai 1

3. Antar angka di pisah dengan menggunakan “x”

## 2. Guided 2

### Source Code

```
package main

import "fmt"

func main() {

    var token string

    fmt.Scan(&token)

    for token != "12345abcde" {

        fmt.Scan(&token)

    }

    fmt.Println("selamat anda berhasil login")

}
```

### Screenshot program

The screenshot shows a code editor interface with the following details:

- File Explorer:** Shows files in the 'MODUL12 WHILE-LOOP' directory: guided1.go (5), guided2.go (1), guided3.go (1), soal1.go (1), soal2.go (1), and soal3.go (1).
- Code Editor:** The file 'guided2.go' is open, displaying the provided Go code.
- Terminal:** The terminal window shows the command 'go run "d:\alpro\modul12\while-loop\guided2.go"' being run, followed by several inputs ('Qwe12312', '231234', '13213', '1231ijwe', '12345abcde') and the output 'selamat anda berhasil login' repeated twice.
- Notepad:** A small window titled 'Untitled - Notepad' is visible at the bottom left, containing sample input data: Nama: Nur Fitri Rachmadilla Dewanti, NIM: 109082500057, Kelas: IF-13-04.

### Deskripsi program

Program ini dibuat untuk mengecek token login.

1. Inputan berupa token (string)

2. Selama inputan token belum benar, program akan terus jalan untuk meminta input ulang
3. Jika token sudah sesuai (12345abcde):
  - a. Program akan berhenti
  - b. Menampilkan "berhasil login"

### 3. Guided 3

#### Source Code

```
package main

import "fmt"

func main() {

    var n, s1, s2, i, temp int

    fmt.Scan(&n)

    s1 = 0

    s2 = 1

    i = 0

    for i < n {

        fmt.Print(s1, " ")

        temp = s1 + s2

        s1 = s2

        s2 = temp

        i = i + 1

    }

}
```

## Screenshot program

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

- EXPLORER:** Shows files in the 'MODUL12 WHILE-LOOP' directory:
  - guided1.go (5 lines)
  - guided2.go (1 line)
  - guided3.go (1 line)
  - soal1.go (1 line)
  - soal2.go (1 line)
  - soal3.go (1 line)
- CODE EDITOR:** Displays the content of guided3.go:

```
1 package main
2 import "fmt"
3 func main() {
4     var n, s1, s2, i, temp int
5     fmt.Scan(&n)
6     s1 = 0
7     s2 = 1
8     i = 0
9     for i < n {
10         fmt.Println(s1, " ")
11         temp = s1 + s2
12         s1 = s2
13         s2 = temp
14         i = i + 1
15     }
}
```
- TERMINAL:** Shows the command-line interface output:

```
PS D:\alpro\modul12 while-loop> go run "d:\alpro\modul12 while-loop\guided3.go"
5
0 1 1 2 3
PS D:\alpro\modul12 while-loop> go run "d:\alpro\modul12 while-loop\guided3.go"
10
0 1 1 2 3 5 8 13 21 34
PS D:\alpro\modul12 while-loop>
```
- NOTEPAD:** A separate window titled 'Untitled - Notepad' containing student information:

```
File Edit Format View Help
Nama: Nur Fitri Rachmadilla Dewanti
NIM: 109082500057
Kelas: IF-13-04
```

## Deskripsi program

Program ini dibuat untuk menampilkan deret Fibonacci

1. Input berupa jumlah angka (n)
2. Program menampilkan n buah angka Fibonacci
3. Deret dimulai dari 0 dan 1
4. Angka berikutnya dihasilkan dari penjumlahan dua angka sebelumnya

## TUGAS

### 1. Tugas 1

#### Source code

```
package main

import "fmt"

func main() {

    var username, password string
    var salah int
    var isLogin = false

    for isLogin == false {
        fmt.Scan(&username, &password)

        if username != "Admin" || password != "Admin" {
            salah = salah + 1
        } else {
            isLogin = true
        }
    }

    fmt.Println(salah)
    fmt.Println("percobaan gagal login")
}
```

## Screenshoot program

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

- EXPLORER:** Shows files in the "MODUL12 WHILE-LOOP" folder: guided1.go, guided2.go, guided3.go, soal1.go (selected), soal2.go, and soal3.go.
- CODE EDITOR:** Displays the content of soal1.go:

```
1 package main
2 import "fmt"
3 func main() {
4     var username, password string
5     var salah int
6     var isLoggedIn = false
7
8     for isLoggedIn == false {
9         fmt.Scan(&username, &password)
10
11        if username != "Admin" || password != "Admin" {
12            salah = salah + 1
13        } else {
14            isLoggedIn = true
15        }
16    }
17    fmt.Println(salah)
18    fmt.Println("percobaan gagal login")
19 }
```
- TERMINAL:** Shows command-line output:

```
PS D:\alpro\modul12 while-loop> go run "d:\alpro\modul12 while-loop\soal1.go"
User123 user123
User admin
Admin admin
Admin Admin123
Admin Admin
4
percobaan gagal login
PS D:\alpro\modul12 while-loop> go run "d:\alpro\modul12 while-loop\soal1.go"
Admin Admin
0
percobaan gagal login
PS D:\alpro\modul12 while-loop>
```
- OUTPUT:** Shows a Notepad window titled "Untitled - Notepad" containing personal information:

```
File Edit Format View Help
Nama: Nur Fitri Rachmadilla Dewanti
NIM: 109082500057
Kelas: IF-13-04
```
- STATUS BAR:** Shows file path (soal1.go), line (Ln 19), column (Col 2), spaces (Spaces: 4), encoding (UTF-8), and version (1.25.1).

## Deskripsi program

Program ini dibuat untuk mengecek login.

1. Inputan berupa username dan password
2. Jika salah, maka:
  - a) Program akan menghitung berapa kali percobaan gagal
  - b) Program akan terus meminta input ulang
3. Jika benar, (username = Admin, password = Admin)
  - a) Login berhasil
  - b) Perulangan akan berhentiJika pH ada di rentang 6.5 sampai 8.6, air layak di minum = akan menampilkan print "air layak minum"
4. Setelah login berhasil, maka:
  - a) Jumlah percobaan login yang gagal
  - b) Output "percobaan gagal login"

## 2. Tugas 2

### Source code

```
package main

import "fmt"

func main() {

    var n int

    fmt.Scan(&n)

    for n > 0 {

        digit := n % 10

        fmt.Println(digit)

        n = n / 10

    }

}
```

### Screenshot program

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

- File Explorer:** Shows the project structure under "MODUL12 WHILE-LOOP". The files listed are: guided1.go, guided2.go, guided3.go, soal1.go, soal2.go (selected), and soal3.go.
- Code Editor:** Displays the content of soal2.go. The code is identical to the one shown in the "Source code" section.
- Terminal:** Shows the command-line interface with the following session:

```
PS D:\alpro\modul12 while-loop> go run "d:\alpro\modul12 while-loop\soal2.go"
2
2
PS D:\alpro\modul12 while-loop> go run "d:\alpro\modul12 while-loop\soal2.go"
2544
4
4
5
2
PS D:\alpro\modul12 while-loop> go run "d:\alpro\modul12 while-loop\soal2.go"
3423554654
4
5
6
4
5
5
3
2
4
3
PS D:\alpro\modul12 while-loop>
```
- Notepad:** A small window titled "Untitled - Notepad" containing personal information:

```
File Edit Format View Help
Nama: Nur Fitri Rachmadilla Dewanti
NIM: 109082500057
Kelas: IF-13-04
```

## Deskripsi program

Program ini dibuat untuk memecah angka menjadi digit-digitnya

1. Input berupa sebuah bilangan bulat
2. Digit terakhir diambil satu per satu dari belakang
3. Setiap digit nya akan di tampilkan pada outputnya

### 3. Tugas 3

#### Source code

```
package main
import "fmt"
func main() {
    var x, y int
    var hasil int = 0
    fmt.Scan(&x, &y)

    for x >= y {
        x = x - y
        hasil = hasil + 1
    }
    fmt.Println(hasil)
}
```

#### Screenshot program

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

- EXPLORER:** Shows files in the 'MODUL12 WHILE-LOOP' directory: guided1.go, guided2.go, guided3.go, soal1.go, soal2.go, and soal3.go.
- EDITOR:** The 'soal3.go' file is open, displaying the provided Go code.
- TERMINAL:** Shows the command 'go run "d:\alpro\modul12 while-loop\soal3.go"' being run, with the output '5 2'.
- OUTPUT:** Shows the command 'go run "d:\alpro\modul12 while-loop\soal3.go"' being run again, with the output '10 7'.
- PROBLEMS:** Shows 10 problems related to PSReadLine.
- NOTEPAD:** A 'Notepad' window titled '\*Untitled - Notepad' contains the following text:

```
File Edit Format View Help
Nama: Nur Fitri Rachmadilla Dewanti
NIM: 109082500057
Kelas: IF-13-04
```

### **Deskripsi program**

Program ini digunakan untuk menghitung hasil bagi dengan memakai perulangan

1. Input berupa angka ( $x$ ) dan ( $y$ )
2. Selama  $x \geq y$ , maka:
  - a)  $x$  dikurangi  $y$
  - b) nilai hasil di tambah 1
3. Hasil akan menunjukkan berapa kali  $y$  bisa di kurangkan dengan  $x$ , artinya hasil pembagian  $x / y$  (tanpa sisa)