

**LAPORAN PRAKTIKUM ALGORITMA  
DAN PEMROGRAMAN 1**

**MODUL No.12**

**WHILE-LOOP**



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**PROGRAM STUDI S1 INFORMATIKA**

**FAKULTAS INFORMATIKA**

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## LATIHAN KELAS – GUIDED

### 1. Guided 1 Source Code

```
package main import
"fmt"
func
main() {
var n int
    fmt.Print("masukan
bilangan:")
    fmt.Scan(&n)
    if n == 0{
        fmt.Println("1")
        return
    }    i := n    for i
> 0 {        fmt.Print(i)
    if i > 1 {
        fmt.Print("x")
    }
    i--
}
fmt.Println()
}
```

## Screenshoot program

```
guide1 > package main
guide1 > import "fmt"
guide1 > func main() {
guide1 >     var n, j int
guide1 >     fmt.Scan(&n)
guide1 >     j = n
guide1 >     for j > 1 {
guide1 >         fmt.Print(j, " x ")
guide1 >         j = j - 1
guide1 >     }
guide1 >     fmt.Println(1)
guide1 >
```

```
PS C:\Users\acer\Desktop\Alpro week12> go run "c:\Users\acer\Desktop\Alpro week12\guide1\guide1.go"
0
1
PS C:\Users\acer\Desktop\Alpro week12> go run "c:\Users\acer\Desktop\Alpro week12\guide1\guide1.go"
5
5 x 4 x 3 x 2 x 1
PS C:\Users\acer\Desktop\Alpro week12> go run "c:\Users\acer\Desktop\Alpro week12\guide1\guide1.go"
10
10 x 9 x 8 x 7 x 6 x 5 x 4 x 3 x 2 x 1
PS C:\Users\acer\Desktop\Alpro week12> go run "c:\Users\acer\Desktop\Alpro week12\guide1\guide1.go"
1
```

Hari hujan yang...  
28°C

### Deskripsi program

Kode ini berfungsi untuk meminta memasukkan sebuah bilangan, kemudian mencetak deret angka dari bilangan tersebut turun hingga angka 1 dengan format dipisahkan tanda “x”. Jika memasukkan angka 0, program langsung menampilkan “1” dan berhenti. Untuk input lebih dari 0, program memakai perulangan menurun yang mencetak setiap angka, dan jika angka tersebut belum mencapai 1, program menambahkan tanda “x” di belakangnya. Dengan begitu, jika memasukkan 5, hasilnya menjadi “5x4x3x2x1”, dan jika memasukkan 10, hasilnya “10x9x8x7x6x5x4x3x2x1”.

## 2. Guided 2 Source

### Code

```
package main

import
"fmt"

func main() {
    const tokenBenar
= "12345abcde"
    var input string

    for {
        fmt.Print("Masukkan token: ")
        fmt.Scanln(&input)

        if input == tokenBenar {
            fmt.Println("Selamat Anda berhasil login")
            break
        }
    }
}
```

## Screenshot program

The screenshot shows a Windows desktop environment with the Visual Studio Code (VS Code) application open. The code editor displays a Go file named `guided2.go` with the following content:

```
1 package main
2
3 import "fmt"
4
5 func main() {
6     var token string
7     fmt.Scan(&token)
8     for token != "12345abcde" {
9         fmt.Scan(&token)
10    }
11    fmt.Println("Congratulations you have successfully logged in")
12 }
```

The terminal tab shows the output of the command `go run "c:/Users/acer/Desktop/Alpro week12/guided2/guided2.go"`:

```
PS C:\Users\acer\Desktop\Alpro week12> go run "c:/Users/acer\Desktop\Alpro week12\guided2\guided2.go"
Qwe12312
23123
123213
12345abcde
Congratulations you have successfully logged in
PS C:\Users\acer\Desktop\Alpro week12> [
```

A floating AI interface window titled "ismail ma" is visible, showing the input "ismail marasabessy" and the response "109082500113". The status bar at the bottom right indicates the date and time as "12/3/2025 11:03 AM".

### Deskripsi program

Program ini menyimpan token yang benar dalam variabel `tokenBenar`, kemudian memakai perulangan `for` tanpa batas untuk meminta input token. Jika token yang dimasukkan cocok, program menampilkan pesan berhasil dan menghentikan loop dengan `break`.

### Guided 3 Source Code

```
package main

import
"fmt"

func main()
{
    var n
    int
        fmt.Println("Masukkan jumlah
N: ")      fmt.Scan(&n)
        a, b := 0, 1      i
        := 0      for i < n {
            fmt.Println(a, " ")
            a, b = b, a+b      i++
        }
}
```

## Screenshot program

```
1 package main
2
3 import "fmt"
4
5 func main() {
6     var N, s1, s2, j, temp int
7     fmt.Scan(&N)
8     s1 = 0
9     s2 = 1
10    j = 0
11    for j < N {
12        fmt.Println(s1)
13        temp = s1 + s2
14        s1 = s2
15        s2 = temp
16        j = j + 1
17    }
18 }
```

```
PS C:\Users\acer\Desktop\Alpro week12> go run "c:/Users/acer/Desktop/Alpro week12/guided3/guided3.go"
5
01123
PS C:\Users\acer\Desktop\Alpro week12> go run "c:/Users/acer/Desktop/Alpro week12/guided3/guided3.go"
2
01
PS C:\Users\acer\Desktop\Alpro week12> go run "c:/Users/acer/Desktop/Alpro week12/guided3/guided3.go"
10
0112358132134
PS C:\Users\acer\Desktop\Alpro week12>
```

### Deskripsi program

Kode ini meminta pengguna memasukkan nilai N, lalu menggunakan sebuah perulangan while (`for i < n`) untuk mencetak N bilangan pertama deret Fibonacci. Dua nilai awal Fibonacci diset ke 0 dan 1, kemudian setiap iterasi mencetak nilai pertama (a) dan memperbarui nilainya dengan rumus a, b = b, a+b sampai jumlah bilangan yang dicetak mencapai N.

## TUGAS

## 1. Tugas 1 Source code

```
package main

import
"fmt"

func main() {      const
userBenar = "Admin"
const passBenar = "Admin"

var user, pass
string     gagal := 0

for {          fmt.Println("Masukkan
username: ")          fmt.Scan(&user)
fmt.Println("Masukkan password: ")
fmt.Scan(&pass)

if user == userBenar && pass == passBenar
{
    break
}

gagal++          fmt.Println("Username atau password
salah, coba lagi.")

}      fmt.Printf("%d percobaan gagal login\n",
gagal)
}
```

## Screenshot program

The screenshot shows a Go code editor interface with several tabs open. The active tab is 'soal1.go' which contains the following code:

```
func main() {
    const passBenar = "Admin"
    var user, pass string
    gagal := 0

    for {
        fmt.Print("Masukkan username: ")
        fmt.Scan(&user)
        fmt.Print("Masukkan password: ")
        fmt.Scan(&pass)

        if user == userBenar && pass == passBenar {
            break
        }

        gagal++
        fmt.Println("Username atau password salah, coba lagi.")
    }
}
```

The terminal below shows the execution of the program:

```
ps C:\Users\acer\Desktop\Alpro week12> go run "c:/Users/acer/Desktop/Alpro week12/soal1/soal1.go"
Masukkan username: user 123
Masukkan password: Username atau password salah, coba lagi.
Masukkan username: userdr admin
Masukkan password: Username atau password salah, coba lagi.
Masukkan username: admin admin
Masukkan password: Username atau password salah, coba lagi.
Masukkan username: admin admin 123
Masukkan password: Username atau password salah, coba lagi.
Masukkan username: Masukkan password: []
```

A floating window titled 'ismail marasabessy' displays the input and output of the program. A sidebar on the right is titled 'Build with Agent' and includes a button 'Build Workspace'.

### Deskripsi program

Program ini meminta username dan password berulang-ulang menggunakan while loop(for{}). Jika input salah, program menambah jumlah percobaan gagal. Jika username dan password benar (Admin, Admin), loop berhenti dan program menampilkan berapa kali login gagal sebelumnya.

## 2. Tugas 2

### Source code

```
package main

import
"fmt"

func main() {      var n int
fmt.Print("Masukkan bilangan positif: ")
fmt.Scan(&n)

    for n > 0 {

digit := n % 10
fmt.Println(digit)
n = n / 10
    }
}
```

## Screenshot program

The screenshot shows a Microsoft Visual Studio Code (VS Code) interface for a Go workspace named "Alpro week12".

- Explorer View:** Shows files in the "ALPRO WEEK12" folder, including "guide1", "guided2", "guided3", "soal1", "soal2", and "soal3".
- Code Editor:** Displays the content of "soal2.go". The code reads a positive integer from the user and prints each digit. A tooltip from an AI assistant is visible, showing the input "ismail marasabessy" and the output "109082500113".
- Terminal:** Shows the command "go run" being run on "soal2.go". The user is prompted to enter a number, and the program outputs the digits 2, 5, 4, 4, and 2.
- AI Assistant:** A floating window titled "Build with Agent" provides AI-generated responses. It includes a message about AI responses being inaccurate, a button to "Generate Agent Instructions", and a "SUGGESTED ACTIONS" section with a "Build Workspace" button.

### Deskripsi program

Program ini dibuat untuk membaca sebuah bilangan bulat positif, kemudian menampilkan setiap digit yang ada di dalam bilangan tersebut mulai dari digit paling kanan hingga digit paling kiri. Proses digit dilakukan menggunakan while-loop.

### 3. Tugas 3 Source code

```
package main

import "fmt"
func main() {
var x, y int
    fmt.Print("Masukkan x dan y: ")
    fmt.Scan(&x, &y)
    hasil := 0
for x >= y {
    x = x - y
    hasil++
}
    fmt.Println(hasil)
}
```

### Screenshot program

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

- EXPLORER:** Shows a folder structure for "ALPRO WEEK12" containing files like guide1.go, guided2.go, guided3.go, soal1.go, soal2.go, and soal3.go.
- CODE EDITOR:** Displays the content of soal3.go. The code is identical to the one shown above, including the package declaration, imports, function definition, variable declarations, loop, subtraction assignment, increment, and print statement.
- TERMINAL:** Shows the output of running the program:

```
PS C:\Users\acer\Desktop\Alpro week12> go run "c:\Users\acer\Desktop\Alpro week12\soal3\soal3.go"
Masukkan x dan y: 5 2
2
PS C:\Users\acer\Desktop\Alpro week12> go run "c:\Users\acer\Desktop\Alpro week12\soal3\soal3.go"
Masukkan x dan y: 10 7
1
PS C:\Users\acer\Desktop\Alpro week12> go run "c:\Users\acer\Desktop\Alpro week12\soal3\soal3.go"
Masukkan x dan y: 12 0
[]
```
- Floating Window:** A small window titled "ismail mar" contains the text "ismail marasabessy" and the ID "109082500113".
- AI Assistant:** A sidebar on the right is titled "Build with Agent" and includes a message about AI responses being inaccurate and instructions to "Generate Agent Instructions to onboard AI onto your codebase".
- Suggested Actions:** A list of actions including "Build Workspace" and "Show Config".
- Bottom Status Bar:** Shows file paths, line numbers, tab sizes, and system status like battery level and date/time.

### **Deskripsi program**

Program ini membaca dua bilangan positif, yaitu  $x$  dan  $y$ , lalu menghitung hasil pembagian bulat dari  $x \div y$  tanpa menggunakan operator pembagian. Perhitungan dilakukan dengan cara mengurangi nilai  $x$  secara berulang-ulang dengan  $y$  menggunakan while loop