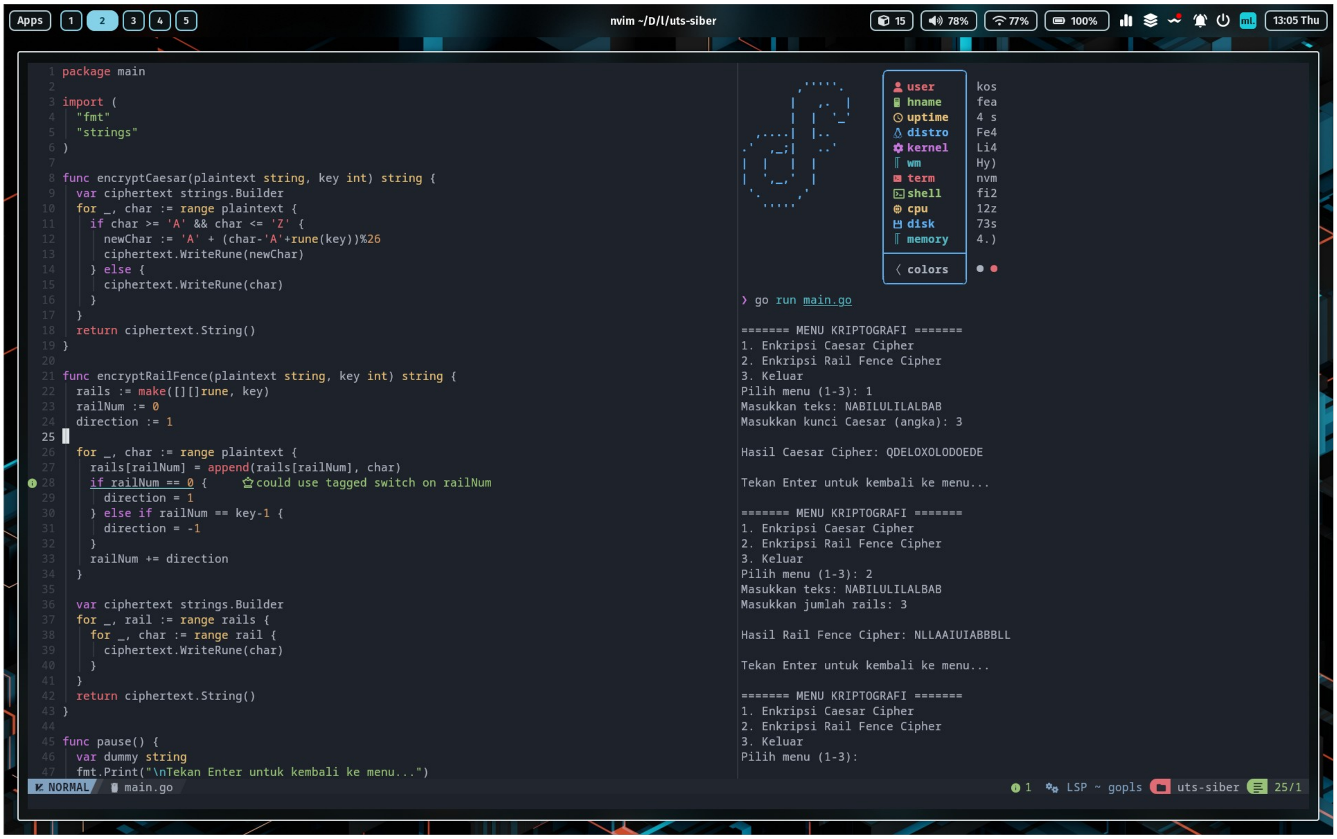
NAMA : Nabil Ulil Albab
NPM : 23670010



```go
package main

import (
  "fmt"
  "strings"
)

func encryptCaesar(plaintext string, key int) string {
  var ciphertext strings.Builder
  for _, char := range plaintext {
    if char >= 'A' && char <= 'Z' {
      newChar := 'A' + (char-'A'+rune(key))%26
      ciphertext.WriteRune(newChar)
    } else {
      ciphertext.WriteRune(char)
    }
  }
  return ciphertext.String()
}

func encryptRailFence(plaintext string, key int) string {
  rails := make([][]rune, key)
  railNum := 0
  direction := 1

  for _, char := range plaintext {
    rails[railNum] = append(rails[railNum], char)
    if railNum == 0 {      could use tagged switch on railNum
      direction = 1
    } else if railNum == key-1 {
      direction = -1
    }
    railNum += direction
  }

  var ciphertext strings.Builder
  for _, rail := range rails {
    for _, char := range rail {
      ciphertext.WriteRune(char)
    }
  }
  return ciphertext.String()
}

func pause() {
  var dummy string
  fmt.Print("\nTekan Enter untuk kembali ke menu...")
```

```
❯ go run main.go

======= MENU KRIPTOGRAFI =======
1. Enkripsi Caesar Cipher
2. Enkripsi Rail Fence Cipher
3. Keluar
Pilih menu (1-3): 1
Masukkan teks: NABILULILALBAB
Masukkan kunci Caesar (angka): 3

Hasil Caesar Cipher: QDELOXOLODOEDE

Tekan Enter untuk kembali ke menu...

======= MENU KRIPTOGRAFI =======
1. Enkripsi Caesar Cipher
2. Enkripsi Rail Fence Cipher
3. Keluar
Pilih menu (1-3): 2
Masukkan teks: NABILULILALBAB
Masukkan jumlah rails: 3

Hasil Rail Fence Cipher: NLLAAIUIABBBLL

Tekan Enter untuk kembali ke menu...

======= MENU KRIPTOGRAFI =======
1. Enkripsi Caesar Cipher
2. Enkripsi Rail Fence Cipher
3. Keluar
Pilih menu (1-3):
```

```go
package main

import (
	"fmt"
	"strings"
)

func encryptCaesar(plaintext string, key int) string {
	var ciphertext strings.Builder
	for _, char := range plaintext {
		if char >= 'A' && char <= 'Z' {
			newChar := 'A' + (char-'A'+rune(key))%26
			ciphertext.WriteRune(newChar)
		} else {
			ciphertext.WriteRune(char)
		}
	}
	return ciphertext.String()
```

```
}

func encryptRailFence(plaintext string, key int) string {
    rails := make([][]rune, key)
    railNum := 0
    direction := 1

    for _, char := range plaintext {
        rails[railNum] = append(rails[railNum], char)
        if railNum == 0 {
            direction = 1
        } else if railNum == key-1 {
            direction = -1
        }
        railNum += direction
    }

    var ciphertext strings.Builder
    for _, rail := range rails {
        for _, char := range rail {
            ciphertext.WriteRune(char)
        }
    }
    return ciphertext.String()
}

func pause() {
    var dummy string
    fmt.Print("\nTekan Enter untuk kembali ke menu...")
    fmt.Scanln(&dummy)
}

func main() {
    for {
        fmt.Println("\n======= MENU KRIPTOGRAFI =======")
        fmt.Println("1. Enkripsi Caesar Cipher")
        fmt.Println("2. Enkripsi Rail Fence Cipher")
        fmt.Println("3. Keluar")
        fmt.Print("Pilih menu (1-3): ")

        var pilihan int
        fmt.Scanln(&pilihan)

        if pilihan == 3 {
            fmt.Println("Terima kasih, program selesai.")
            break
        }

        var teks string
```

```
		fmt.Print("Masukkan teks: ")
		fmt.Scanln(&teks)
		plaintext := strings.ToUpper(teks)

		switch pilihan {
		case 1:
			var key int
			fmt.Print("Masukkan kunci Caesar (angka): ")
			fmt.Scanln(&key)
			cipher := encryptCaesar(plaintext, key)
			fmt.Printf("\nHasil Caesar Cipher: %s\n", cipher)
			pause()

		case 2:
			var key int
			fmt.Print("Masukkan jumlah rails: ")
			fmt.Scanln(&key)
			cipher := encryptRailFence(plaintext, key)
			fmt.Printf("\nHasil Rail Fence Cipher: %s\n", cipher)
			pause()

		default:
			fmt.Println("Pilihan tidak valid.")
			pause()
		}
	}
}
```