Laporan Praktikum Algoritma & Pemrograman

Semester Genap 2024/2025

SAYA MENYATAKAN BAHWA LAPORAN PRAKTIKUM INI SAYA BUAT DENGAN USAHA SENDIRI TANPA MENGGUNAKAN BANTUAN ORANG LAIN. SEMUA MATERI YANG SAYA AMBIL DARI SUMBER LAIN SUDAH SAYA CANTUMKAN SUMBERNYA DAN TELAH SAYA TULIS ULANG DENGAN BAHASA SAYA SENDIRI.

SAYA SANGGUP MENERIMA SANKSI JIKA MELAKUKAN KEGIATAN PLAGIASI, TERMASUK SANKSI TIDAK LULUS MATA KULIAH INI.

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Minggu ke / Materi	**12 / Dictionary**

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BAGIAN 1: MATERI MINGGU INI (40%)

Pada bagian ini, tuliskan kembali semua materi yang telah anda pelajari minggu ini. Sesuaikan penjelasan anda dengan urutan materi yang telah diberikan di saat praktikum. Penjelasan anda harus dilengkapi dengan contoh, gambar/ilustrasi, contoh program (source code) dan outputnya. Idealnya sekitar 5-6 halaman.

Link Github : https://github.com/yohanesthathit/Praktikum-Alpro-2025.git

Materi

Dictionary adalah struktur data Python yang menyimpan pasangan kunci dan nilai (key-value pair). Key dapat berisi data apapun, biasanya string atau angka. Value dapat berisi tipe data apa saja.

Membuat Dictionary :

Dictionary kosong :

```
Dictionary = dict()
```

Menambahkan isi Dictionary :

```
Dictionary["key"] = value
```

Akses isi Dictionary :

`Dictionary["key"]` ➔ KeyError jika key tidak ada

Fungsi dalam Dictionary :

`len(Dictionary)` ➔ Jumlah isi dictionary

Operator dalam Dictionary :

`"key" in Dictionary` ➔ Cek apakah ada kunci tersebut di Dictionary

`Dictionary.values()` ➔ Mengakses semua value

`Dictionary.keys()` ➔ Mengakses semua key

`list(Dictionary.values())` ➔ Mengubah value ke dalam list

`list(Dictionary.keys())` ➔ Mengubah key ked dalam list

Dictionary sebagai set penghitung (counters)

Metode 1 (if) :

```
word = 'harimurti'
Dictionary = dict()
for huruf in word:
    if huruf not in Dictionary:
        Dictionary[huruf] = 1
```

```
    else:
        Dictionary[huruf] += 1

print(Dictionary)
```

Output

```
PS D:\ALPRO\MINGGU 12> & "C:/Program Files/Python312/python.exe" "
{'h': 1, 'a': 1, 'r': 2, 'i': 2, 'm': 1, 'u': 1, 't': 1}
```

Metode 2 (get) :

```
word = 'mamipokopants'
Dictionary = dict()
for huruf in word:
    Dictionary[huruf] = Dictionary.get(huruf,0) + 1

print(Dictionary)
```

Output

```
PS D:\ALPRO\MINGGU 12> & "C:/Program Files/Python312/python.exe" "d:/ALPR
{'m': 2, 'a': 2, 'i': 1, 'p': 2, 'o': 2, 'k': 1, 'n': 1, 't': 1, 's': 1}
PS D:\ALPRO\MINGGU 12>
```

Dictionary dan File

```
namaFile = "mbok-crot.txt"
counts = dict()
with open (namaFile, "r") as file:
    for line in file:
        words = line.split()
        for word in words:
            counts[word] = counts.get(word, 0) + 1

print(counts)
```

Output

```
PS D:\ALPRO\MINGGU 12> & "C:/Program Files/Python312/python.exe" "d:/ALPRO/MINGGU 12/test2.py"
{'But': 1, 'soft': 1, 'what': 1, 'light': 1, 'through': 1, 'yonder': 1, 'window': 1, 'breaks': 1, 'It': 1, 'is': 3, 'the': 3, 'east': 1, 'and': 3, 'Juliet': 1, 'sun': 2, '
Arise': 1, 'fair': 1, 'kill': 1, 'envious': 1, 'moon': 1, 'Who': 1, 'already': 1, 'sick': 1, 'pale': 1, 'with': 1, 'grief': 1}
```

Looping dan Dictionary

Loop melalui key:

```
Dictionary = {"A" : ">85", "B" : ">75", "C" : ">65", "D" : ">55", "E" : "<55"}
for key in Dictionary:
    print(key, Dictionary[key])
```

Output

```
PS D:\ALPRO\MINGGU 12>
A >85
B >75
C >65
D >55
E <55
```

Menampilkan dengan nilai > 60

```
Dictionary = {"A" : 85, "B" : 75, "C" : 65, "D" : 55, "E" : 55}
for key in Dictionary:
    if Dictionary[key] > 60:
        print(key, Dictionary[key])
```

Output

```
PS D:\ALPRO\MINGGU 12> &
A 85
B 75
C 65
```

Mengurutkan output berdasarkan urutan kunci

```
Dictionary = {"E" : "<55", "B" : ">75", "A" : ">85", "C" : ">65", "D" : ">55"}
lstkey = list(Dictionary.keys())
print("Sebelum disort : ", lstkey)
lstkey.sort()
print("Sesudah disort : ",lstkey)
for key in Dictionary:
    print(key, Dictionary[key])
```

Output

```
PS D:\ALPRO\MINGGU 12> & "C:/Program Files/Python
Sebelum disort :  ['E', 'B', 'A', 'C', 'D']
Sesudah disort :  ['A', 'B', 'C', 'D', 'E']
E <55
B >75
A >85
C >65
D >55
```

Advenced Text Parsing

```
import string
namaFile = "romeo.txt"
counts = dict()
with open(namaFile, "r") as file:
    for line in file:
        line = line.rstrip()
        line = line.translate(str.maketrans('', '', string.punctuation))
        line = line.lower()
        words = line.split()
        for word in words:
            if word not in counts:
                counts[word] = 1
            else:
                counts[word] += 1
print(counts)
```

Output

```
PS D:\ALPRO\MINGGU 12> & "C:/Program Files/Python312/python.exe" "d:/ALPRO/MINGGU 12/test4.py"
{'but': 1, 'soft': 1, 'what': 1, 'light': 1, 'through': 1, 'yonder': 1, 'window': 1, 'breaks': 1, 'it': 1, 'is': 3, 'the': 3, 'east': 1, 'and': 3, 'juliet': 1, 'sun': 2, '
arise': 1, 'fair': 1, 'kill': 1, 'envious': 1, 'moon': 1, 'who': 1, 'already': 1, 'sick': 1, 'pale': 1, 'with': 1, 'grief': 1}
```

BAGIAN 2: LATIHAN MANDIRI (60%)

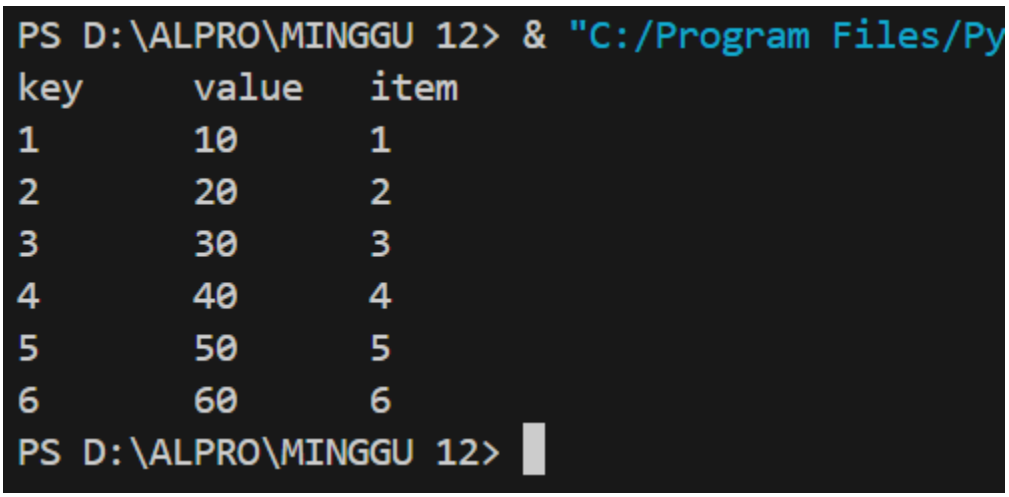
Pada bagian ini anda menuliskan jawaban dari soal-soal Latihan Mandiri yang ada di modul praktikum. Jawaban anda harus disertai dengan source code, penjelasan dan screenshot output.

SOAL 1

Source Code

```
Dictionary = {1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}
print("key\tvalue\titem")
for key in Dictionary:
    print(f'{key}\t{Dictionary[key]}\t{key}')
```

Output



SOAL 2

Soruce Code

```
Lista = ['red', 'green', 'blue']
Listb = ['#FF0000','#008000', '#0000FF']

Dick = {}

for i in range (len(Lista)):
        Dick[Lista[i]] = Listb[i]

print(Dick)
```

Output

```
PS D:\ALPRO\MINGGU 12> & "C:/Program Files/Python312/python.
{'red': '#FF0000', 'green': '#008000', 'blue': '#0000FF'}
```

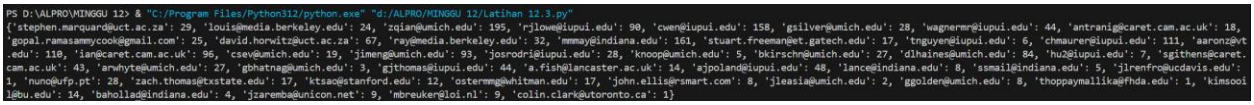
SOAL 3

Soruce Code

```
namaFile = "mbok-short.txt"
hasil = {}
with open(namaFile, "r") as teks:
    for line in teks:
        if line.startswith("From "):
            baris = line.split()
            if len(baris) > 1:
                email = baris[1]
                # print(email)
                if email not in hasil:
                    hasil[email] = 1
                else:
                    hasil[email] += 1

print(hasil)
```

Output



SOAL 4

Soruce Code

```
namaFile = "mbok-short.txt"
hasil = {}
with open(namaFile, "r") as teks:
    for line in teks:
        if line.startswith("From "):
            baris = line.split()
            if len(baris) > 1:
                email = baris[1]
                domain = email.split("@")
                domain = domain[1]
                # print(email)
                if domain not in hasil:
                    hasil[domain] = 1
                else:
                    hasil[domain] += 1
```

```
print(hasil)
```

Output

```
PS D:\ALPRO\MINGGU 12> & "C:/Program Files/Python312/python.exe" "d:/ALPRO/MINGGU 12/Latihan 12.4.py"
{'uct.ac.za': 96, 'media.berkeley.edu': 56, 'umich.edu': 491, 'iupui.edu': 536, 'caret.cam.ac.uk': 157, 'gmail.com': 25, 'indiana.edu': 178, 'et.gatech.edu': 17, 'vt.edu': 110, 'lancaster.ac.uk': 14, 'ucdavis.edu': 1, 'uf
p.pt': 28, 'txstate.edu': 17, 'stanford.edu': 12, 'whitman.edu': 17, 'rsmart.com': 8, 'fhda.edu': 1, 'bu.edu': 14, 'unicon.net': 9, 'loi.nl': 9, 'utoronto.ca': 1}
```