

Praktikum 2

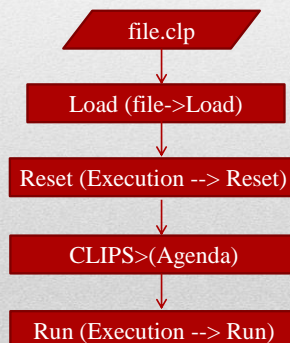
Sistem Pakar



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Penggunaan file .clp

- Agar pengetahuan tersimpan di dalam secondary storage, maka harus disimpan dalam suatu *file*
- Dalam CLIPS, format *file* tersebut berekstensi .clp
- Tahapan penggunaan file .clp



DEFFACTS COMMAND

- Use for Initializing facts.
- Called as *initial knowledge*.
- Functionally Like *assert*.

CON'T

- General Format

```
(deffacts <deffacts name> [<optional  
comment>] <facts>)
```

- E.g

```
(deffacts mahasiswa (person (name "sofuyyah")  
(age 17)  
(eye-color blue)  
(hair-color brown)))
```

CON'T

- Deffact juga bisa digunakan untuk memasukkan himpunan fakta lebih dari satu
- Contoh

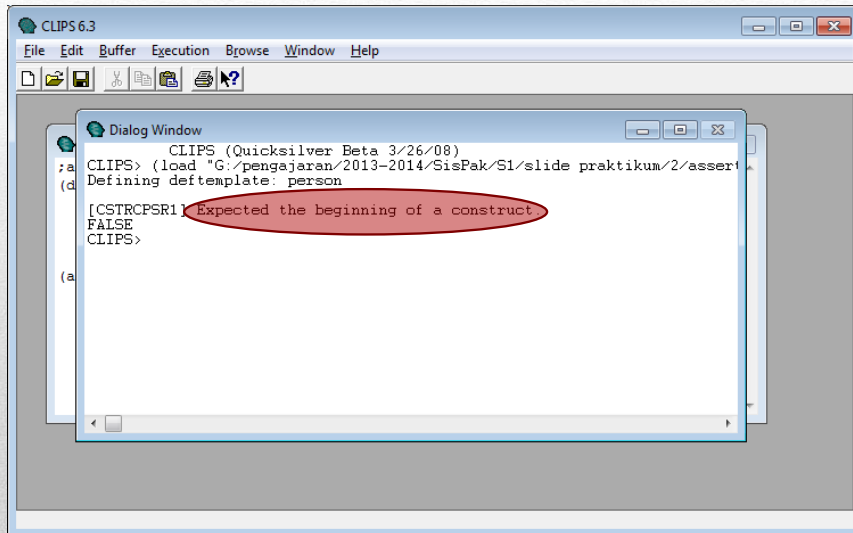
```
CLIPS > (deffacts test1  
          (ali ayah indra)  
          (indra ayah budi))
```

DEFFACT VS ASSERT

- Assert

```
;assert.clp  
(deftemplate person  
  (slot name)  
  (slot age)  
  (slot eye-color)  
  (slot hair-color))  
(assert (person (name "shofiyyah")  
              (age 15)  
              (eye-color brown)  
              (hair-color black)))
```

Result



DEFFACT VS ASSERT

- o Deffact

;deffact.clp

(defftemplate person

(slot name)

(slot age)

(slot eye-color)

(slot hair-color))

(deffacts siswa (person (name "shofiyah")

(age 4)

(eye-color blue)

(hair-color black))

(person (name "aisyah")

(age 2)

(eye-color brown)

(hair-color black)))

Result

```

CLIPS 6.3
File Edit Buffer Execution Browse Window Help
Dialog Window
CLIPS> (clear)
==> f-0 (initial-fact)
CLIPS> (clrscr)

[EXPRNPSR3] Missing function declaration for clrscr.
CLIPS> (clc)

[EXPRNPSR3] Missing function declaration for clc.
CLIPS> (clear)
==> f-0 (initial-fact)
CLIPS> (cls)

[EXPRNPSR3] Missing function declaration for cls.
CLIPS> (load "G:/pengajaran/2013-2014/SisPak/S1/slide praktikum/2/defi
Defining deftemplate: person
Defining deffacts: siswa
Defining TRUE
CLIPS>

```

DEFFACT VS ASSERT

- Deffact load

```

CLIPS 6.3 - [Dialog Window]
File Edit Buffer Execution Browse Window Help
Dialog Window
CLIPS> (load "E:/Users/fidie/Desktop/assert.clp")
Defining deftemplate: person

[CSTRCPSR1] Expected the beginning of a construct.
FALSE
CLIPS> (load "E:/Users/fidie/Desktop/defact.clp")

[CSTRCPSR1] WARNING: Redefining deftemplate: person
Defining deffacts: siswa
TRUE
CLIPS>

```

Me-load File.clp

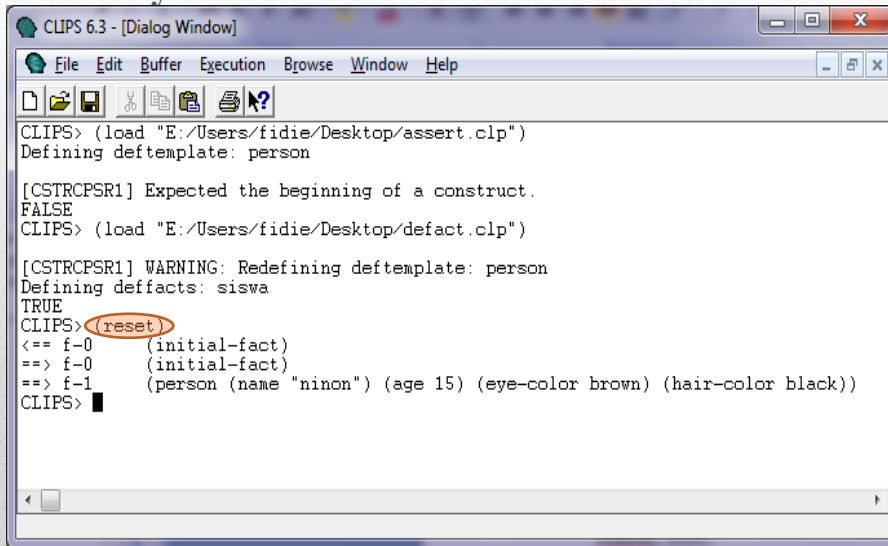
- Perintah yang digunakan: (load)
 - Format : (**load** “<directory>”)

 - Contoh: (load "E:/Users/ilkom/Desktop/assert.clp")
 - Perintah lain: File => Load atau ctrl + L
-

Memasukkan data yang diload ke working memory

- Data yang diload tidak langsung masuk ke working memory → tidak dapat langsung digunakan
 - Perintah: (reset)
-

Memasukkan data yang diload ke working memory



```
CLIPS 6.3 - [Dialog Window]
File Edit Buffer Execution Browse Window Help
CLIPS> (load "E:/Users/fidie/Desktop/assert.clp")
Defining deftemplate: person

[CSTRCPSR1] Expected the beginning of a construct.
FALSE
CLIPS> (load "E:/Users/fidie/Desktop/defact.clp")

[CSTRCPSR1] WARNING: Redefining deftemplate: person
Defining deffacts: siswa
TRUE
CLIPS> (reset)
<== f-0      (initial-fact)
==> f-0      (initial-fact)
==> f-1      (person (name "ninon") (age 15) (eye-color brown) (hair-color black))
CLIPS>
```

Membersihkan Layar

- Perintah: (clear-window)

RULE

- Perintah: (defrule)
- Format of RULE:

```
(defrule <rule name> [<optional comment>]  
  <condition> =><after condition>)
```

Contoh RULE

```
; rule.clp  
(deftemplate suhu  
  (slot kondisi))  
(deftemplate respon  
  (slot lajureaksi))  
;Make Rule  
(defrule tinggi-suhu  
  (suhu (kondisi tinggi))  
  =>  
  (assert (respon  
            (lajureaksi naik))))  
(defrule rendah-suhu  
  (suhu (kondisi rendah))  
  =>  
  (assert (respon  
            (lajureaksi turun))))
```


Menjalankan RULE

- Perintah: (run)
 - Pastikan fakta dan rule sudah ada di working memory
-

RUN

- For Running our program.
 - **Commandd**
(run)
-

RUN

```

CLIPS 6.3 - [Dialog Window]
File Edit Buffer Execution Browse Window Help
CLIPS> (load "E:/Users/fidie/Desktop/rule.clp")
Defining deftemplate: suhu
Defining deftemplate: respon
Defining defrule: tinggi-suhu +j+j
Defining defrule: rendah-suhu +j+j
TRUE
CLIPS> (assert (suhu(kondisi tinggi)))
=> f-1 (suhu (kondisi tinggi))
<Fact-1>
CLIPS> (run)
FIRE 1 tinggi-suhu: f-1
=> f-2 (respon (lajureaksi naik))
CLIPS> (facts)
f-0 (initial-fact)
f-1 (suhu (kondisi tinggi))
f-2 (respon (lajureaksi naik))
For a total of 3 facts.
CLIPS>

```

variabel.CLP

(deftemplate variabel

(slot number))

(deftemplate jumlah

(slot total))

(deffacts nilai

(variabel (number 4))

(variabel (number 6)))

(defrule addup

(variabel (number ?x))

(variabel (number ?y))

=>

(bind ?total (+ ?x ?y))

(printout t ?x " + " ?y " = " ?total crlf)

(assert (jumlah (total ?total))))

Latihan

1. Buatlah sebuah file . clp yang berisikan
 - a. template untuk fakta “mahasiswa”
(slot nama, nrp, nilai) *nilai berupa integer dari 0-10
 - b. template mutu (slot nilai-mutu)
 - c. 5 buah inisialisasi fakta mahasiswa yang memiliki nilai dari 3-7
 - d. rule yang berisikan
 - nilai-mutu A untuk nilai 9-10
 - nilai-mutu B untuk nilai 7-8
 - nilai-mutu C untuk nilai 5-6
 2. Tambahkan 3 fakta berdasarkan template mahasiswa yang memiliki nilai 8-10!
 3. Run program dan tuliskan fakta akhirnya!
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Terima Kasih
