

## **PART I examples from the website of the lecture.**

Notes: erroneous inputs are deleted.

```
#<LISPWORKS-TOOLS:EDITOR "Editor 1 - jw3123.lsp" 21ACD763>
```

```
CL-USER 1 > match '() '()
```

```
T
```

```
CL-USER 2 > match '(ai) '(ai)
```

```
T
```

```
CL-USER 3 > match '(ai cs) '(ai cs)
```

```
T
```

```
CL-USER 4 > match '(cs ai) '(ai cs)
```

```
NIL
```

```
CL-USER 5 > match '(1 2 3 0) '(1 2 3 4 0)
```

```
NIL
```

```
CL-USER 6 > match '(? mudd) '(seely mudd)
```

```
T
```

```
CL-USER 7 > match '(?first ?middle mudd) '(seely w mudd)
```

```
((?MIDDLE W) (?FIRST SEELY))
```

```
CL-USER 8 > match '(? ?x ? ?y ?) '(Warren Buffet Is A Good Man)
```

```
NIL
```

```
CL-USER 9 > match '(School Of Engineering and Applied Science) '(School Of  
Engineering)
```

```
NIL
```

```
CL-USER 10 > match '(* School Of Engineering and Applied Science) '(The Fu  
Foundation School Of Engineering and Applied Science)
```

```
T
```

CL-USER 11 > match '(The \* School Of Engineering and Applied Science) '(The Fu  
Foundation School Of Engineering and Applied Science)

T

CL-USER 12 > match '(The \* School Of Engineering and Applied Science) '(The  
School Of Engineering and Applied Science)

T

CL-USER 15 > match '(\* 3 ?x 4 \*) '(3 5 4)  
((?X 5))

CL-USER 16 > match '( ?x (1 2) ?y (4 5)) '(c (1 2) d (4 5))  
((?Y D) (?X C))

CL-USER 18 : 1 > match '(?y ?z (c v)) '(8 gh (c v) )  
((?Z GH) (?Y 8))

CL-USER 19 : 1 > match '(((get) me) out) '(get (me (out)))  
NIL

CL-USER 20 : 1 > match '(A \* B) '(A A A A A B)  
T

CL-USER 22 : 2 > match '(A \* B) '(A A A A A B)  
T

CL-USER 23 : 2 > match '(?x \* ?y) '(A A A A A B)  
((?Y B) (?X A))

CL-USER 24 : 2 > match '(a ?x !x) '(a 5 5)  
NIL

CL-USER 25 : 2 > match '(a ?x !x)  
(A ?X !X)

CL-USER 26 : 2 > '(a 5 4)

(A 5 4)

CL-USER 27 : 2 > match '(a ?x !x) '(a 5 4)  
((?X 5))

CL-USER 28 : 2 > match '(a ?x ?y) '(a (a b) c)  
((?Y C) (?X (A B)))

CL-USER 29 : 2 > match '(?x ?y ?z (& <x >y !z)) '(10 5 7 8)  
((?Z 7) (?Y 5) (?X 10))

CL-USER 30 : 2 > match '(ai ?y !y) '(ai cs cs)  
NIL

CL-USER 31 : 2 > match '(ai ?x ?y (& ?x ?y)) '(ai cs cs cs)  
((?Y CS) (?X CS))

CL-USER 32 : 2 > match '(\* ?x \* ?y (& !x !y))  
(\* ?X \* ?Y (& !X !Y))

CL-USER 34 : 2 > match '(\* ?x \* ?y (& !x !y)) '(a b c d)  
(((?Y C) (?X A)) ((?Y C) (?X B)))

## **PART II the “horrible example” from the slide of the lecture:**

#<LISPWORKS-TOOLS:EDITOR "Editor 1 - jw3123.lsp" 21ACD763>

CL-USER 1 > match '(((((\* ?x \* (\* ((\* ?y \* ?) (?z b)) (\* ?u)) ? g \*))))  
\* ?v ? t) '((((8 x (z ((y x z f g) (z b)) (a b u)) g g)))) v t  
t)  
(((?V V) (?U U) (?Z Z) (?Y Y) (?X 8)) ((?V V) (?U U) (?Z Z) (?Y X) (?X 8)) ((?V V)  
(?U U) (?Z Z) (?Y Z) (?X 8)) ((?V V) (?U U) (?Z Z) (?Y F) (?X 8)) ((?V V) (?U U) (?Z  
Z) (?Y Y) (?X X)) ((?V V) (?U U) (?Z Z) (?Y X) (?X X)) ((?V V) (?U U) (?Z Z) (?Y Z)  
(?X X)) ((?V V) (?U U) (?Z Z) (?Y F) (?X X)))

## **Part III Self designed examples:**

CL-USER 2 > match '(?x ?y !x (?z (?x ?y) 3)) '(1 2 2 (5 (1 2) 3 ))  
((?Z 5) (?Y 2) (?X 1))

CL-USER 3 > match '(\* ?x \* ?z \* ?z (?x !y) \*) '(5 8 1 4 6 2 (4 4) 5 8 4 1 )  
NIL

CL-USER 4 > match '(\* ?x \* ?z \* ?y (?x !y) \*) '(5 8 1 4 6 2 (4 4) 5 8 4 1 )  
((?Y 2) (?Z 6) (?X 4))

CL-USER 1 > match '(?x (?x) ((?x) (?x)) (& >x) ) '(1 (1) ((1) (1)) 4 )  
((?X 1))

CL-USER 2 > match '(?x (?x) \* ) '(1 (1) ((1) (1)) 4 )  
((?X 1))