

## 作業6

- Input:  
Please input an integer set s1: 1 9 7 5 9 3 11  
Please input an integer set s2: 2 6 5 4 5 3 7  
Input error!! Duplicate elements are not allowed in sets!!  
Please input an integer set s1: 11 a 7 5 3 1  
Please input an integer set s2: 7 6 5 4 b 2  
Input error!! Some elements are not integers!!  
Please input an integer set s1: 9 11 7 3 5 1  
Please input an integer set s2: 2 6 5 4 3 7
- Output:
  - printout to a file: set.txt
  - (set (name s1) (members 1 3 5 7 9 11))
  - (set (name s2) (members 2 3 4 5 6 7))
  - (set (name s1 union s2) (members 1 2 3 4 5 6 7 9 11))
  - (set (name s1 intersect s2) (members 3 5 7))

提示: (integerp ?x) 可以測試一個變數值是否為整數,回傳true或false  
(implode\$ ?m) 可以將一個multifield欄位轉成為字串  
(explode\$ ?s) 可以將一個字串欄位轉成為multifield

```
(deftemplate set (multislot name) (multislot members))
```

```
(deffacts initial (phase input))
```

```
(defrule input-number  
  (phase input)  
=>  
  (printout t "Please input a set s1: ")  
  (assert (set (name s1) (members (explode$ (readline))))))  
  (printout t "Please input a set s2: ")  
  (assert (set (name s2) (members (explode$ (readline))))))
```

```
(defrule check-input-error-1  
  ?f1 <- (phase input)  
  ?f2 <- (set (name ?t1) (members $ ?a $ ?a $ ?a))  
  ?f3 <- (set (name ?t2&~?t1) (members $ ?a))  
=>  
  (retract ?f1 ?f2 ?f3)  
  (printout t "Input error!! Duplicate elements are not allowed in sets!!" crlf)  
  (assert (phase input)))
```

```
(defrule check-input-error-2  
  ?f1 <- (phase input)  
  ?f2 <- (set (name ?t1) (members $ ?a $ ?a))  
  ?f3 <- (set (name ?t2&~?t1) (members $ ?a))  
  (test (not (integerp ?a)))  
=>  
  (retract ?f1 ?f2 ?f3)  
  (printout t "Input error!! Some elements are not integers!!" crlf)  
  (assert (phase input)))
```

```
(defrule input-no-error  
  (declare (salience -10))  
  ?f <- (phase input)  
=>  
  (retract ?f)  
  (assert (phase compute)))
```