

"CS 301"

"Test Cases: Assignment 3"

;Machine transition definitions for testing

```
(define final '(4))
(define trans1a '(a 1 2))
(define trans1b '(b 1))
(define trans1c '(c 1))
(define trans2b '(b 3))
(define trans3c '(c 4))
(define trans1 (list 1 trans1a trans1b trans1c))
(define trans2 (list 2 trans2b))
(define trans3 (list 3 trans3c))
(define term-abc (list final trans1 trans2 trans3))
(define tt0a '(a 1))
(define tt0eps '(eps 2))
(define tt1b '(b 3))
(define tt2a '(a 2 3))
(define f2 '(3))
(define mach2 (list f2 (list 0 tt0a tt0eps) (list 1 tt1b) (list 2 tt2a)))
```

"Problem 1"

"Testing: (transitions 1 'a term-abc); Expected output: '(1 2); Actual output:"

(transitions 1 'a term-abc)

"Testing: (transitions 2 'b term-abc); Expected output: '(3); Actual output:"

(transitions 2 'b term-abc)

"Testing: (transitions 2 'a term-abc); Expected output: '(); Actual output:"

(transitions 2 'a term-abc)

"Testing: (transitions 0 'eps mach2); Expected output: '(2); Actual output:"

(transitions 0 'eps mach2)

"Problem 2"

"Testing: (nfa-execute '(b b a a c b a c b a b c) '1 term-abc); Expected output: '(1 1 1 1 1 1 1 1 1 2 3 4); Actual output:"

(nfa-execute '(b b a a c b a c b a b c) '1 term-abc)

"Testing: (nfa-execute '(b b a a c b a c b a b b) '1 term-abc); Expected output: '(); Actual output:"

(nfa-execute '(b b a a c b a c b a b b) '1 term-abc)

"Testing: (nfa-execute '(a a a a a a a a) 0 mach2); Expected output: '(0 2 2 2 2 2 2 2 2 3); Actual output:"

(nfa-execute '(a a a a a a a a) 0 mach2)

"Testing: (nfa-execute '(a b a a a b) 0 mach2); Expected output: '(); Actual output:"

(nfa-execute '(a b a a a b) 0 mach2)