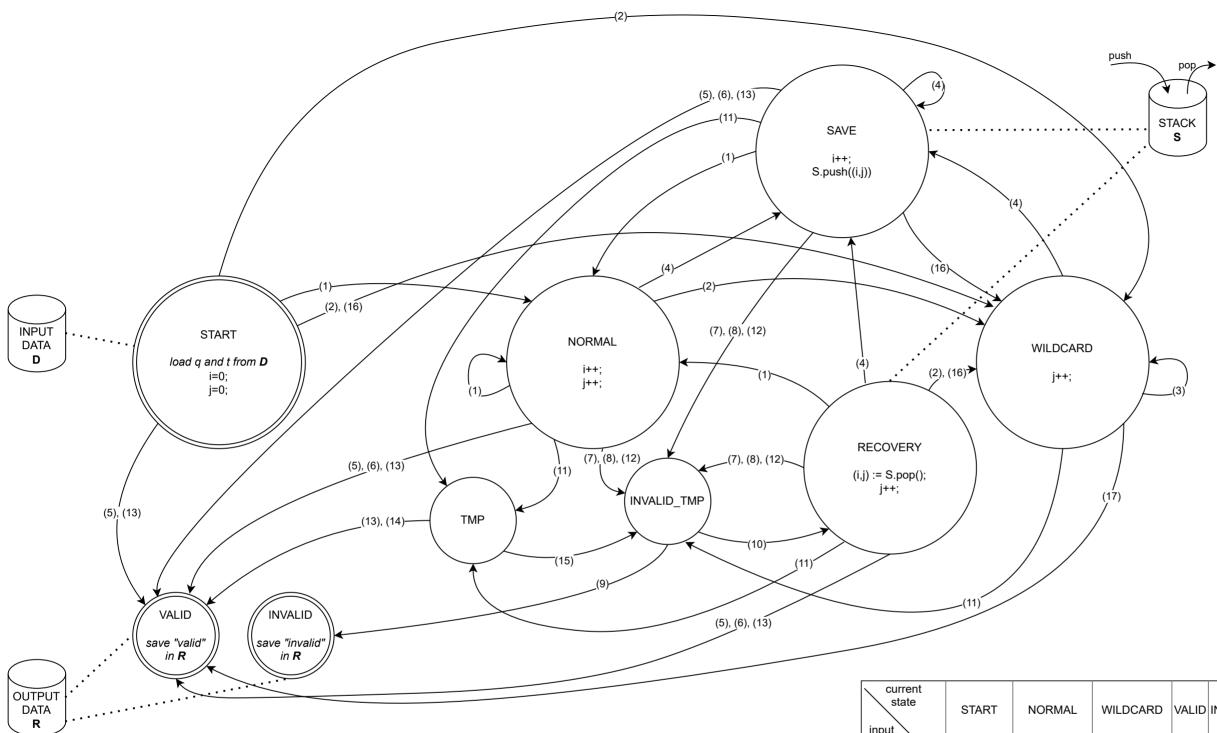
GOAL: Given an un-stememd wildcard query *q* and a stemmed token *t*, return true if the stemmed version of the wildcard query is compatible with the given stemmed token, false otherwise.

This problem is solved using an implementation of a modified finite-state machine, where each state can take some input parameter and its state evolves dynamically according to its current state and the input parameters.



(1)	i < q.length	AND	j < t.length	AND	(q[i] = t[j] O	R ste	m(t.substring(0),j) + q.substrin	g(i).removeAll("*")) = t)
(2)	i < q.length-1	AND	j < t.length	AND	$q[i] \neq t[j]$	AND	q[i] = '*'			
(3)	i < q.length-1	AND	j < t.length	AND	$q[i+1] \neq t[j]$					
(4)	i < q.length-1	AND	j < t.length	AND	q[i+1] = t[j]					
(5)	i = q.length	AND	j = t.length							
(6)	i = q.length-1	AND	j < t.length	AND	$q[i] \neq t[j]$	AND	q[i] = '*'			
(7)	i = q.length-1	AND	j < t.length	AND	$q[i] \neq t[j]$	AND	q[i] ≠ '*'			
(8)	i < q.length-1	AND	j < t.length	AND	q[i] ≠ t[j]	AND	q[i] ≠ '*'			
(9)	S.isEmpty()									
(10)	! S.isEmpty()									
(11)	i < q.length	AND	j = t.length							
(12)	i = q.length	AND	j < t.length							
(13)	j = t.length	AND	i < q.length	n ANE) <i>stem(</i> t + q	.subst	ring(i).removeA	.ll("*")		
(14)	q[i] = '*'	AND	i = q.length	า-1						
(15)	q[i] ≠ '*'	OR	i < q.length	-1						

(16) i < q.length-1 AND j < t.length AND q[i] \neq t[j] AND q[i+1] = '*' AND q[i] \neq '*' (17) j = t.length AND i < q.length AND stem(t + q.substring(i+1).removeAll("*")) = t.

Each time that a wildcard is found, the <i>currentState</i> is added to the
stack.
The <i>currentState</i> is the tuple (i, j) , where j is the index in t such that
the condition $q[i+1]=t[j]$ holds, i.e., the index in t of the character from
which t restart matching q after a wildcard was encounterd in q .

current state input	START	NORMAL	WILDCARD	VALID	INVALID	INVALID_TMP	TMP	RECOVERY	SAVE
no input (unstable state)	-	-	-	end	end	-	-	-	-
(1)	NORMAL	NORMAL	-	-	-	-	-	NORMAL	NORMAL
(2)	WILDCARD	WILDCARD	-	-	-	-	-	WILDCARD	-
(3)	-	-	WILDCARD	-	-	-	-	-	-
(4)	-	SAVE	SAVE	-	-	-	-	SAVE	SAVE
(5)	VALID	VALID	-	-	-	-	-	VALID	VALID
(6)	-	VALID	-	-	-	-	-	VALID	VALID
(7)	-	INVALID_TMP	-	-	-	-	-	INVALID_TMP	INVALID_TMP
(8)	-	INVALID_TMP	-	-	-	-	-	INVALID_TMP	INVALID_TMP
(9)	-	-	-	-	-	INVALID	-	-	-
(10)	-	-	-	-	-	RECOVERY	-	-	-
(11)	-	TMP	INVALID_TMP	-	-	-	-	TMP	TMP
(12)	-	INVALID_TMP	-	-	-	-	-	INVALID_TMP	INVALID_TMP
(13)	VALID	VALID	-	-	-	-	VALID	VALID	VALID
(14)	-	-	-	-	-	-	VALID	-	-
(15)	-	-	-	-	-	-	INVALID_TMP	-	-
(16)	WILDCARD	WILDCARD	-	-	-	-	-	WILDCARD	WILDCARD
(17)	-	-	VALID	-	-	-	-	-	-